ICONES

PLANTARUM INDIÆ ORIENTALIS:

OR

FIGURES OF INDIAN PLANTS.

BY

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——— brachypoda 1578–80
——— cærulea 1583
——— *capillacea* 1572
——— conferta 1575
——— *cyania* 1575
——— diantha 1569
——— fasciculata 1568
——— *filicaules* 1583
——— glochidiata 1581
——— Griffithii 1576
——— humilis 1572
——— macrolipis 1580
——— nivea 1582–3
——— pedicellata 1578
——— punctata 1570
——— racemosa 1584
——— reticulata 1571
——— Smithiana 1577
——— squamosa 1579
——— stellaris 1567–8
——— uligenoides 1573
——— uligenosa 1573–4–5–9
——— Wallichiana 1572

PRIMULACEÆ.

Anagallis *arvensis* 1205
——— *cærulea* 1205
——— latifolia 1205
Lysimachia (E.) Leschenaultii 1204
——— *tenella* 1585
Micropyxis *pumila* 1585
——— tenella 1585

MYRSINIACEÆ.

Ardisia Courtalensis 1215
——— *Doma* 1212
——— humilis 1212
——— *littoralis* 1212
——— *oleracea* 1212
——— *paniculata* 1215
——— pauciflora 1214
——— *pentagona* 1213
——— rhomboidea 1213
——— *Solanacea* 1212
——— *umbellata* 1212
Choripetalum aurantiacum 1210
Embelia *Basaal* 1209
——— Gardneriana 1208
——— glandulifera 1207
——— Ribes 1207
——— Tsjeriam-cottam 1290
——— *villosa* 1209
Mæsa Indica 1206
——— *missionis* 1207
——— *Perrottetiana* 1206
Myrsinæ capitellata 1210–11
Samara Rheedii 1591

SAPOTACEÆ.

Isonandra Candolliana 1220
——— *Percha* 1589
——— Perrottetiana 1219
——— polyandra 1589
Mimusops Elingi 1586
——— *hexandra* 1587–8
——— Indica 1587
——— Roxburghiana 1588
Sapota Elingoides 1218
Sideroxylon attenuatum 1590

EBENACEÆ.

Diospyros Candolliana 1221–22
——— capitulata 1224–1585
——— *chloroxylon* 1224
——— dubia 1223
——— montana 1225
——— obovata 1226
——— *orixensis* 1225
——— ovalifolia 1227
——— *tetrasperma* 1221–22
Maba *Ebinus* 1228–9
——— Neilgherrensis 1228–9
——— *Smeathmanni* 1228–9

ILICINEÆ.

Ilix Gardneriana 1217
——— (P.) Wightiana 1216

STYRACACEÆ.

Symplocos foliosa 1234
——— Gardneriana 1231–34
——— microphylla 1232
——— monantha 1236

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Symplocos nervosa 1235
——— obtusa 1233
——— pendula 1237
——— pulchra 1230
——— *racemosa* 1253

OLEACEÆ.

Ligustrum *macrophylla* 1245
——— Neilgherrense 1243
——— *Nepalense* 1244
——— Perrottetii 1244
——— *ramiflora* 1245
——— *vulgare* 1243
Linociera intermedia 1245
Olea 1241, glandulifera 1238
—— linocieroides 1241
—— polygama 1239–40
—— robusta 1242

JASMINEÆ.

Jasminum affine 1255
——— *aureum* 1258
——— *auriculatum* 1254–55
——— *bignoniacium* 1258
——— bracteatum 1248
——— brevilobum 1254–55
——— chrysanthemum 1258
——— Courtallense 1252
——— erectiflorum 1251
——— flexile 1252–53
——— grandiflorum 1257
——— *laurifolium* 1247
——— Malabaricum 1250
——— *myrtifolium* 1247
——— ovalifolium 1256
——— revolutum 1258
——— rigidum 1247
——— Rottlerianum 1249
——— *tetraphis* 1247

APOCYNACEÆ.

Aganosma Blumii 1305
——— Doniana 1306
——— elegans 1304-6
Alexia Ceylanica 1293
Anodendron Candollianum 1309
——— *paniculatum* 1309
Beaumontia *grandiflora* 1314–15
——— Jerdoniana 1314–15
Carissa *carandas* 1289
—— congesta 1289
—— paucinervia 1289,90
Chilocarpus Ceylanicus 1288
Cleghornia acuminata 1310
——— cymosa 1312
Ecdysanthera glandulifera 1307
——— Griffithii 1307
Ellertonia Rheedii 1295
Epigyum Griffithianum 1308
Heligme Rheedii 1303
Holarrhena Codaga 1297
——— Malaccensis 1298
——— pubescens 1297
Hunteria *lanceolaria* 1294
——— Roxburghiana 1294
Ophioxylon Belgaumense 1292
——— Ceylanicum 1291
——— macrocarpum 1292
——— Neilgherrense 1292
Pottsia Hookeriana 1306
—— *ovata* 1306
Strophanthus brevicaudatus 1302
——— *dichotomus* 1299
——— Griffithii 1300
Strophanthus longicaudatus 1299
——— Wightianus 1301
Wrightia Rothii 1319
——— *tinctoria* 1319
——— Wallichii 1296

ASCLEPIADEÆ.

Boucerosia campanulata 1287
——— diffusa 1599
——— lasiantha 1286
——— *umbellata* 1286.7
Brachylepis nervosa 1284
Calotropis *gigantea* 1278
——— *Hamiltoniana* 1278
——— procera 1278
Caralluma attenuata 1268
——— *fimbriata* 1268
Ceropegia *acuminata* 1263
——— *bulbosa* 1263
——— ciliata 1262
——— Decaisneana 1259
——— elegans 1265
——— intermedia 1263
——— juncea 1260
——— Munronii 1264
——— pusilla 1261
——— spiralis 1267
——— Walkeræ 1266
Chilocarpus Ceylanicus 1288
Chionantheæ 1241
Cosmostigma acuminatum 1270
——— *racemosum* 1270
Cynoctonum alatum 1280
——— callialata 1279
Decalepis Hamiltonii 1285
Gymnema Decaisneana 1271
——— hirsutum 1271–72
——— *sylvestre* 1271
Hemidesmus pubescens 1320
Hoya parviflora 1269
—— *linearis* 1269
Sarcolobus globosus 1273
Sarcostemma Brunonianum 1282
——— intermedium 1281
Secamone emeticæ 1283
Tylophora asthmatica 1277
——— Iphisia 1276
——— mollissima 1275
——— parviflora 1274
Vincetoxicum Arnothanum 1614

LOGANIACEÆ.

Fagræa Coromandelina 1316
——— Malabarica 1317
——— Zeylanica 1317
Gærtnera konegii 1318
Gardnera Wallichii 1313
Mitrasachme Indica 1601
——— Malaccensis 1601
Mitreola *oldenlandiordes* 1600
——— paniculata 1600

GENTIANACEÆ.

Canscora (C.) grandiflora 1326
——— Lawii 1327
——— perfoliata 1327
——— tenella 1327
Erythræa Roxburghii 1325
Exacum bicolor 1321
——— Courtallense 1323
——— Perrottetii 1322
——— petiolare 1324
——— pumilum 1324
——— sessile 1324
——— Zeylanicum 1322
Gentiana pedicellata 1328
Halenia Perrottetii 1334
Ophilia corymbosa 1329–30
——— *elatior* 1330
——— elegans 1331
——— Griesbachiana 1330
——— minor 1332

OROBANCHACEÆ.

Æginetia pedunculata 1421
Campbellia 1419–1423
——— aurantiaca 1424
——— cytinoides 1425
Christisonia 1419
——— aurantiaca 1486
——— calcarata 1426
——— Lawii 1427
——— *Neilgherrica* 1425
——— subacaulis 1423–26–27
Cystanche 1419
——— lutea 1420
——— tubulosa 1420
Oligopholis 1419–21
——— tubulosa 1422
Philipeæa ramosa 1618

CYRTANDRACEÆ.

Æschynanthus Ceylanica 1347
Didymocarpus *Humboldtiana* 1351
——— lyrata 1350
——— ovalifolia 1351
——— Rottleriana 1348
——— tomentosa 1349
Epithemæ Ceylanica 1354
Isanthera *floribunda* 1355
——— permollis 1355
Jerdonia Indica 1352
Klugia Notoniana 1353

BIGNONIACEÆ.

Bignonia 40, Xylocarpa 1335–36
Calosanthes Indica 1337–38
Panjanelia *multijuga* 1343
——— Rheedii 1343–4
Spathodia arcuata 1340
——— Rheedii 1339
Stereospermum Chelonoides 1341
——— suaveolens 1342

PEDALIACEÆ.

Pedalium murex 1615
Sesamum laciniatum 1345
——— prostratum 1346

ACANTHACEÆ.

Acanthodium grossum 1535–36
——— *hirtum* 1535–36
Adenosma verticellata 1524
Adhatoda Neilgherrica 1544
——— Wynaudensis 1545
Ætheilema reniforme 1533
Andrographis Ceylanica 1560
——— lobelioides 1557
——— Neesiana 1561
——— viscosula 1559
——— Wightiana 1558
Asystasia Coromandeliana 1506
Barleria Courtallica 1529
——— Hochtetteri 1528
Blepharis asperima 1534
Calophanes vagans 1526
Cryptophragmium axillare 1496
——— canscens 1495
——— *serrulatum* 1495

Dicliptera bivalvis 1551
——— cuneata 1552
Dipteracanthus patulus 1505
Ebermiera glauca 1488
Endopogon versicolor 1497
——— viscosus 1498
——— capitatus 4499
——— Strobilanthes 1500
——— foliosus 1501
——— rhamnifolius 1521
Erythracanthus obtusus 1491
Goldfussia Dalhousiana 1509
——— decurrens 1522
——— penstemonoides 1510
——— tristis 1508
——— Zenkeriana 1517
Gymnostachyum alatum 1525
——— *Ceylanica* 1494
——— polyanthum 1494–1525
Haplanthus Neilgherryensis 1556
——— *tener* 1556
Hemiadelphis polysperma 1492
Hemichoriste montana 1538
Hemigraphis latebrosa 1504
Hygrophilla obovata 1489
——— salicifolia 1490
Hypoestes Malaccensis 1555
Justicia livida 1546
Lepidagathis *laxa* 1564
——— longifolia 1564
——— nervosa 1620
——— Walkeriana 1530–1620
Leptacanthus Walkerii 1507
——— alatus 1527
Leptostachya Wallichii 1543
Meyenia Hawtayniana 1487
Neuracanthus Lawii 1531
——— trinervius 1532
Peristrophe montana 1553
Phloganthus latifolius 1537
——— *thyrsiflorus* 1537
Physichilus serpyllum 1493
Rhaphedosperma glabra 1554
Rostellularia *diffusa* 1539
——— gracilis 1541
——— hedyotidifolia 1540
——— *mollissima* 1539
——— procumbens 1539
——— simplex 1542
Ruellia punctata 1563
Rungia Arnottiana 1550
——— latior 1548
——— pectinata 1547
——— Wightiana 1549–50
Stenosiphonium 1503
———diandrum 1496–1502
——— Russellianum 1503
Strobilanthes 1492–6,1510–1522
——— asper 1518–23
——— campanulatus 1562
——— *ciliatus* 1517
——— *decurrens* 1517
——— *glabratus* 1517
——— Grahamianus 1520
——— *Heyneana* 1520
——— *Heymeanus* 1619
——— lurida 1519
——— Luridus 1515–16
——— micranthes 1519
——— *Mysorensis* 1519
——— Neesiana 1523
——— Perrottetianus 1513
——— Perrottianus 1523
——— rugosus 1619
Strobilanthes sessilis 1511
——— sessiloides 1512
——— *Wightiana* 1516
——— Wightianus 1514–18

SCROFULARIACEÆ.

Anterrhinum glaucum 1459
Artanema sesamoides 1410
Bonnaya verbenæfolia 1412
——— veronicifolia 1411
Buchnera hispida 1413
Campylanthus ramosissimus 1416
——— *salsoloides* 1416
Celsia Coromandelina 1406
Limnophila hypericifolia 1409
Mazus surculosus 1407
Micrargeria Wightii 1417
Pedicularis Perrottetii 1418
——— Zeylanica 1419
Ramphicarpa longiflora 1415
Stemodia viscosa 1408
Striga Orobanchoides 1414
Verbascum virgatum 1404–5

SOLANACEÆ.

Capsicum fastigiatum 1616
Datura fastuosa 1396
——— *Stramonium* 1396
Lycium *Afrum* 1403
——— Europæum 1403
——— Indicum 1403
——— *Ruthenicum* 1403
Puneeria coagulans 1617
——— Stocks 1615
Solanum denticulatum 1397
——— ferox 1399–1400
——— Jacquine 1401
——— (N.) pubescens 1402
——— verbascifolium 139

CONVOLVULACEÆ.

Argyreia *acuta* 1356
——— aggregata 1356–9
——— *elliptica* 1356
——— *festiva* 1356
——— fulgens 1357
——— *setosa* 1356–60
——— speciosa 1360
——— tillæfolia 1358
Breweria *evolvuloides* 1369
——— Roxburghii 1370–76
Calonyction speciosum 1136
Convolvulus *capitulatus* 1366
——— glomeratus 1366
——— microphyllus 1367
——— rhynospermum 1368
——— rufescens 1365
Cuscuta Arabica 1371
——— Chinensis 1373
——— hyalina 1372
——— sulcata 1372
Ipomæa 1356, bracteata 1374
——— campanulata 1375
——— pileata 1363
——— Wightii 1364
Lepistemon flavescens 1362
Lettsomia 1356
——— aggregata 1359
——— setosa 1360
Porana *paniculata* 1376
——— racemosa 1376
——— *volubilis* 1376
Rivea ornata 1356
——— tillæfolia 1358
Seddera evolvuloides 1396

BORRAGINEÆ.

Arneibia hispidissima 1393
Cordia *cuneata* 1379
——— *domestica* 1378
——— fulvosa 1380
——— *Leschenaultii* 1380
——— Myxa 1378
——— obliqua 1378
——— Perrottetii 1381
——— Rothii 1379
——— *tomentosa* 1378
——— *trichostemon* 1380
——— *Wallichii* 1378
Cynoglossum fureatum 1395
Echinospermum cælestinum 1394
Ehretia lævis 1382
——— ovalifolia 1383
——— Wightiana 1384
——— (X.) cumeta 1385
Heliotropium brevifolium 1389
——— Coromandelianum 1388
——— linifolium 1391
——— *Malabaricum* 1387
——— marifolium 1390
——— Rottleria 1392
——— scabrum 1389–90
——— supinum 1387
——— tenue 1391
——— *Zeylanicum* 1386
Sericostoma pauciflorum 1377
Tournefortia *Edgeworthii* 1386
——— reticosa 1386
——— *subulata* 1386
——— *veridiflora* 1386
——— Zeylanica 1386

VERBENACEÆ.

Avicennia 1480
——— alba 1482
——— *officinalis* 1481–82
——— tomentosa 1481
Bouchea (Ch.) Hyderabadensis 1462
——— (R.) marrubiifolia 1461
Callicarpa Wallichiana 1480
Clerodendron infortunatum 1471
——— phlomoides 1473
——— serratum 1472
Congea azurea 1479
——— velutina 1479 or 1566
——— *villosa* 1479
——— tomentosa 1479–1565
Gmelina arborea 1470
——— *Rheedii* 1470
Lantana *alba* 1464
——— Indica 1464
Lippia (Z.) nodiflora 1460
Peronema canescens 1640
Premna cordifolia 1483
——— glaberima 1484
——— integrifolia 1469
——— *serratifolia* 1469
——— *thyrsoidea* 1485
——— tomentosa 1468
——— Wightiana 1485
Sphenodesme *acuminata* 1476
——— barbata 1474
——— ferruginea 1474
——— Griffithiana 1477
——— Jackiana 1476–7
——— *pentandra* 1475
——— triflora 1478
——— Wallichiana 1475
Vitex altissima 1466

Vitex *arborea* 1465
—— leucoxylon 1467
—— pubescens 1465

LABIATÆ.

Anisochilus albidum 1436
—— dysophylloides 1434
—— purpureum 1435
—— suffruticosum 1437
Coleus barbatus 1432
—— spicatus 1431
—— Wightii 1433
Dysophylla auricularia 1445
—— *crassifolea* 1444
—— tetraphylla 1444
Gomphostemma *eriocarpum* 1457
—— Heyneanum 1456
Gomphostemma oblongum 1457
Lavandula (Ch.) Burmanni 1438
—— (Ch.) Lawii 1439
Leucas *helianthemifolia* 1453
—— *Indica* 1451
—— (A.) lanceæfolia 1452
——(A.) rosmarinifolia 1455
—— (A.) suffruticosa 1454
—— (A.) ternifolia 1453
—— (H.) urticæfolia 1451
Melissa umbosa 1474
Micromeria biflora 1446
Orthosiphon bracteatus 1428
Plectranthus *coetsa* 1430
—— macræi 1430
—— *scrofularioides* 1429
—— *striatus* 1429
—— Wightii 1429
Pogostemon Heyneanum 1440
—— hirsutum 1442
—— rotundatum 1441
—— speciosum 1443
Prunella vulgaris 1448
Scutellaria violacea 1449
——rivularis 1450
Teucrium tomentosum 1458

SALVADORACEÆ.

Salvadora Persica 1620

PHYTOLACCACEÆ.

Gisekia moluginoides 1168
—— pharnaciodes 1167

EUPHORBIACEÆ.

Jatropha *peltata* 1169
—— villosa 1169

ERRATA.

Plate 1420, for Cystanche tubulosa, read *C. lutea.*
Plate 1420-bis for do. do. do. do.
Plate 1423, for Phelipæa subacaulis, read *Christisonia subacaulis.*
Plate 1424, for Christisonia aurantiaca, read *Campbellia aurantiaca.*
Plate 1425, for ———— Neilgherrica, read *Campbellia cytenoides.*
Plate 1465, for Vitex arborea, read *V. pubescens.*
Plate 1467, for Wallrothia leucoxylon, read *Vitex leucoxylon.*
Plate 1472, for Clerodendron senatum, read *C. serratum.*
Plate 1474, for Sphenodesme ferruginea, read *Sph. barbata.*
Plate 1475, for ———— pentandra, read *Sph. Wallichiana.*
Plate 1476, for ———— acuminata, read *Sph. Jackiana.*
Plate 1477, for ———— Jackiana, read *Sph. Griffithiana.*
Plate 1479, for Congea villosa, read *Congea velutina.*
Plate 1485, for Premna thyrsoidea, read *P. Wightiana.*
Plate 1523, for Strobilanthes Neesiana, read *Neesianus.*

EXPLANATION OF PLATES.

VOL. IV.—PART I.

1163. AXANTHES CEYLANICA. (R. W.) arborescent, ramuli terete or obsoletely 4-sided, glabrous: stipules minute, triangular: leaves lanceolate, acuminated, glabrous on both sides, finely reticulated with slender brownish veinlets: inflorescence umbellate, umbels simple, axillary, usually paired: peduncles about the length of the petioles: calyx cup-shaped, entire or slightly toothed: corolla rotate, 5-cleft: ovary 5-celled, surmounted by an ovoid, fleshy, disk: style none: stigmas 5: berry globose, about the size of a rather large pea.—*R. W. Calcutta Journ. Nat. Hist., Vol. 7.*

HAB.—Ceylon.

Obs.—I gathered specimens of this in 1836, and afterwards received others from Colonel Walker. I at first, on account of its bisexual flowers, supposed that this was Blume's A. corymbosa: discrepancies between his character and my specimens induce me now to look upon it as a distinct species. It is quite distinct from *A. Blumeana,* which it much resembles in its general outline, though distinguished by many characters taken from the inflorescence and flowers, but especially by the venation, which in this, resembles a Terminalia, in that, a Lasianthus.

1164. AXANTHES ELLIPTICA. (R. W.) arborescent? ramuli terete, glabrous, or very sparingly pubescent: leaves elliptic, shortly and abruptly acuminated, glabrous above, paler and villous beneath, especially on the somewhat prominently reticulated veins, penninerved: stipules linear lanceolate, longer than the petioles, deciduous: corymbs short, subcapitate, solitary or paired: calyx cup-shaped: corolla rotate: anthers apiculate: style exceeding the disk: stigmas 5, connivent, ovary 5-celled.—*R. W. Calcutta Journ. l. c.*

HAB.—Ceylon, 1836.

Obs.—This species I found in Ceylon, and so far as I can make out from my collection, it has not been met with in any other country. The rigid form, coriaceous leaves, and almost capitate inflorescence, distinguishes it from all the others. The leaves are about five inches long, by from one and a half to two broad. The bisexual habit, a point by which it approaches *A. corymbosa,* Bl., separates it from all his other species.

1165. AXANTHES LONGIFOLIA. (R. W.) arborescent? ramuli obsoletely 4-angled, glabrous: stipules lanceolate hairy, longer than the petioles: leaves ovate lanceolate, acuminate; about three times longer than broad, penninerved, glabrous on both sides: corymbs axillary small, dichotomous, hairy, involucrate at the division; bracts coarsely hairy: calyx cup-shaped: corolla rotate, 5-cleft: ovary sterile, flat, or somewhat concave above, 5-furrowed, surmounted by a filiform style.—*R. W. Calcutta Journ. l. c.*

HAB.—Mergui, Griffith.

Obs.—The inflorescence of this species much resembles that of the former, but is much smaller, being under an inch in length, scarcely longer than the petiole, the larger leaves are from nine to ten inches long, by about three broad, ending in a tapering acumen, and quite glabrous on both sides. My only specimen is a male, but the ovary is so nearly perfect, that mere change of season seems only wanting to make it produce fertile flowers.

1166. DIPSACUS WALKERI. (Arnott.) Stem prickly and towards the extremities hairy: leaves pinnatifid softly pubescent on both sides; lobes oblong-elliptic somewhat obtuse, serrated, the terminal one lanceolate: leaflets of the involucrum spreading much shorter than the globose capitulum: paleæ ovate mucronulate ciliate, shorter than the corolla.—*Arn. Pugillus. Walpers* 2 *p.* 332.

Ceylon in pastures flowering April and May. I gathered it in company with Colonel Walker in 1835, during a short visit to the Island.

1167. GISEKIA PHARNACIODES. (Lin.) procumbent very diffuse: leaves succulent, obovate lanceolate, obtuse: flowers axillary, aggregated, short pedicelled.—*R. W. Calcutta Journ. V. 7, p.* 162.

A very common weed growing in pasture ground, and about old walls in flower at all seasons but especially during rainy weather.

1168. GISEKIA MOLUGINOIDES. (R. W.) erect or ascending; leaves linear lanceolate: corymb axillary; peduncles about the length of the leaves, flowers longish pedicelled.—*R. W. l. c.*

Deesa. Stocks, to whom I am indebted for the specimen.

This plant, in habit resembles, *Mollugo stricta,* but seems more erect, leaves clothed beneath with short appressed hairs: sepals membranous on the margin imbricating: corolla none, filaments dilated at the base, anthers adnate; ovary of five one-celled carpels with a single erect ovule in each, styles adherent to the inner angles of the carpels: stigma pubescent reflexed: utricles setosely hisped: seed somewhat reniform polished black: embryo annular, embracing a copious farinaceous album.

The dissections through a oversight do not represent a detached seed but as seen enclosed in the utricle.

1169. JATROPHA VILLOSA. (R. W. *I. peltata* R. W. not Kunth.) fruticose, erect, ramous, without visced glands: leaves peltate, suborbicular, obtusely 5-7 lobed, entire, softly villous on both sides: calyx lobes lanceolate entire, villous, valvate in œstivation: corolla tubular, hairy within: stamens 8, filaments united to near the apex, interior anthers extrorse.

Arid stony plains, at the foot of the hills near Coimbatore, in low shrubby jungle, flowering during the hot season (April and May). This is a low nearly naked shrub, except on the ends of the branches, where it bears a few alternate peltate leaves and its terminal corymbs. It is generally glabrous, except the leaves, which are softly villous on longish exstipulate petioles, somewhat orbicular in their outline, obtusely 5 to 7 lobed and from 3 to 5 inches across. The flowers are pale yellowish coloured, the exterior series of anthers introrse, the interior extrorse, stigma large, 6 lobed.

The want of viscid glands, the valvate œstivation and extrorse interior anthers seem to indicate this as the type of a new genus, but so far as the latter point of structure is concerned, I suspect an error in ob-

servation, as I find a similar structure in *Curcas* though there also they are all said to be introrse.

1170. LOBELIA TRIGONA. (Roxb.) glabrous, branches diffuse, erect, or ascending and like the stems trigonous: leaves subsessile ovate subcordate repandly dentate, teeth mucronulate: pedicels slender, longer than the leaves, bibractiolate at the base: tube of the calyx obconical, lobes linear, acuminate about the length of the tube: corolla small glabrous, longer than the calyx: anthers enclosed, all bearded at the apex: capsule obovoid.—*D. C. Prod.*, 7. 360.

In moist pastures on the borders of rice fields frequent, also abundant in swampy grounds on the Neilgherries.

This is usually a low diffuse plant growing amongst grass, stems weak and succulent, the leaves succulent when growing, but thin and membranous when dry. Flowers pale blue. The habit of the plant is well represented in the drawing.

1171. LOBELIA TRICHANDRA. (R. W.) erect, ramous, every where, except the anthers, glabrous or only slightly pubescent: stem and branches terete: leaves obovate lanceolate serrated, shortly acuminated, tapering below into a shortish petiole: racemes axillary loose: bracts foliacious, lower ones longer than the pedicels; upper ones shorter or altogether wanting: pedicels ebractiolate: calyx tube subglobose, lobes of the limb lanceolate, serrated, about the length of the tube of the corolla: lateral lobes of the corolla deeply cleft, narrow linear acuminate, middle ones shorter, broader, lanceolate: anthers clothed with short bristly hairs, the lower pair slightly pinicellate.

Sisparah on the Western slopes of the Neilgherries flowering from January to April. A large sized herbaceous annual from 4 to 6 feet high, ramous from near the base. Lower leaves from 10 to 12 inches long and about 3 broad, acuminated. Flowers white, the lobes of the corolla tipped with rose. I have specimens of what appears to be a variety with glabrous anthers and the corolla less deeply divided.

1172. LOBELIA AROMATICA. (Moon's Cal.) stem simple, erect, terete, glabrous at the base, tomentose above: leaves subsessile lanceolate acuminated, finely glanduloso-serrated, villous on both sides: racemes terminal, spicate many flowered; bracts foliaceous denticulate: pedicels ebractiolate and like the calyx and corolla tomentose: calyx tube hemispherical; lobes subulate, subdenticulate, about 1-3d the length of the corolla: lateral lobes of the corolla linear acute, central ones cohering: two inferior anthers pinicellate, all otherwise glabrous.

Ceylon in the central alpine regions—4 Korales—Moon.

This species seems intermediate between *L. excelsa* and *nicotianifolia*, but is readily distinguishable from both by its tomentose racemes and flowers, and want of bracteoles.

1173-4. LOBELIA EXCELSA. (Lesch.) stem very large herbaceous erect: leaves lanceolate, shortly petioled, narrow at the base, acuminate, denticulate, puberulous above, tomentose beneath: racemes foliaceous pubescent, many flowered: bracts long acuminate glanduloso-denticulate, twice the length of the pedicels: lobes of the calyx erect, linear lanceolate, denticulate, thrice the length of the hemispherical tube; equaling the length of the tube of the pubescent corolla.—*D. C. Prod.* 7—381.

Very common on the Neilgherries. A tall ungainly looking plant, flowering during the rains, from May to September but to be met with in flower at all seasons. The stems are annual but the roots seem perenneal. The stems are currently met with from 6 to 8 feet high, but may often be seen from 10 to 12 feet, flowers pale yellowish tinged with lilace, pubescent. than half superior.

1175. WAHLENBERGIA AGERSTIS. (Alph. D.C.) stem erect, ramous from the base, pilose below: lower leaves approximated, narrow linear nearly entire, undulated on the margin; peduncles usually dichotamous with very short bracts: tube of the calyx glabrous obovoid, shorter than the erect linear narrow lobes: corolla funnel shaped about a twice the length of the lobes of the calyx: capsule obovoid.—*D. C. Prod.* 7—*p.* 434.

Neilgherries frequent, in flower at nearly all seasons, flowers pale blue. I am not quite sure that this is identical with the Nepaul plant or rather, whether I ought not to have viewed this as *W. Indica* rather than the following which is a much less common plant on the hills and is perhaps a new species. If however this is W. Indica, then it seems probable the two species ought to be united as this corresponds well will with the character in all except in the station.

1176. WAHLENBERGIA INDICA? (Al. D. C.) stem ramous below and like the leaves pilose: leaves linear entire acuminate: peduncles 1 flowered glabrous: calyx glabrous, tube ovoid, lobes narrow acute: corolla tubular about a half longer than the calyx, capsule obconical.—*D. C. Prod.* 7. 434.

Neilgherries in moist pasture land. In the operation of transfer this figure has been represented much too hairy, in the original it was delicately pilose. On this account it would probably have been better to have suppressed the figure, but it is hoped this explanation will suffice to correct the error of the existence of which I was not aware until the whole impression had been printed off.

1177. CAMPANULA ALPHONSII. (Wall.) decumbent one-flowered: stem pubescent, cauline leaves sessile, sub-lanceolate acute, denticulate, pilose above, incanous beneath: calyx pubescent, divisions acute serrated or sometimes lobed, about half the length of the campanulate puberulous corolla. *D.C. Prod.* 7. 473. (very slightly altered.)

Neilgherries forming dense tufts in clefts of rocks. The specimen represented is very different from the one described by D. C. though unquestionably the same species, I have therefore in the character ventured to make one or two slight alterations but I suspect scarcely enough to give a correct idea of the species.

1178. CAMPANULA RAMULOSA. (Wall.) stem erect, pilose, ramous: leaves lanceolate sessile, crenato-dentate, veins prominent beneath: pedicels axillary and terminal: calyx pilose, lobes broad acute sub-dentate about half the length of the cylindrical villous corolla: capsule turbinate drooping. *D. C. Prod.* 7. 473.

Neilgherries, in woods and about hedges in shady places. The original specimens of this species were from Nepaul but so far as character enables me to decide the Southern plant does not differ.

1179. Campanula fulgens. (Wall.) stem erect, about a foot high, hairy: leaves lanceolate acuminated at both ends, short petioled, serrated: flowers subsessile, axillary solitary or three together, approximated towards the apex: lobes of the calyx subulate erect entire, about the length of the infundibuliform glabrous corolla.—*D. C. Prod.* 7. *p.* 477.

Neilgherries, on grassy slopes and pastures, frequent. I have another form, apparently, of this plant with the flowers congested into a capitulum. Flowering season June and July during the rains but not confined to that season as it may be found in flower at nearly all seasons. The Neilgherry plant seems to differ from the Bengal one in the calyx being considerably shorter than the corolla, which leads to the suspicion of its being a distinct species though, from its agreeing so well with the character in other respects, I cannot venture on giving it a new name.

Vaccinium.

Dunal, in his monagraph of the Order *Vacciniæ*, retains *Agapetes* and *Thibaudia*. Endlicher, Miesner, and Lindley unite them. Kunth is followed by Miesner in expressing a doubt as to whether *Ceratostema* is distinct from *Thibaudia*, and Hooker states that he "cannot understand what are the essential distinguishing marks between them." Among the following are species which have been referred by different Botanists to *Ceratostema, Agapetes, Thibaudia, Gaylussacia* and *Vaccinium*. To determine among so many genera it became indispensable to examine the characters of all with much care. After the closest scrutiny and careful dissection of the flowers of all the Indian species in my collection side by side with several acknowledged *Vaccinia* from both America and Europe, I found it utterly impossible, from the characters given, to make out more than one genus among the Asiatic ones,the structure being the same in all. By Roxburgh these would perhaps have been all referred to *Ceratostema*. Wallich refers them to *Thibaudia* while Don and Dunal form the genus *Agapetes* for their reception. Had long tubular flowers been a constant feature, I might on that account, aided by geographical distribution, have followed these authors, and, assuming that as its essential character, kept up their genus. This however is far from being the case, and therefore as a generic character is useless. And on turning to Dunal's character of *Vaccinium*, I find the corolla described as "campanulata, urcolata vel cylindrica."

In all the Indian ones it is either urceolate or cylindrical. He describes the stamens as "limbo calycis inserta," which is the case in all the Indian ones I have examined, and the fruit "Bacea calyce vestita globosa 4 aut 5 locularis loculis polyspermis, rarissime 10 locularis loculis monospermis" which, except the last clause, is equally applicable to the fruit of all I have had an opportunity of examining. The ovary, unfortunately, is not referred to in the character of either genus. The concluding clause of the character may perhaps account for Professor Lindley's referring one of the species to *Gaylussacia*,which, while that clause remains as part of the character of *Vaccinium*, seems scarcely a distinct genus, the fruit having 10 cells with 1 seed in each being its essentially distinguishing mark. In all other points Dunal's characters of the 2 genera are nearly word for word the same, and the abortion of all the ovules but 2 in each of the 5 cells converts *Vaccinium* into *Gaylussacia* and, unless care is bestowed in the examination, even that is not necessary, as a transverse section of a nearly mature fruit almost always presents the appearance of 10 cells with one seed in each, and I feel nearly certain that an examination of the *ovary* will shew that but few of Dunal's 29 species have it 10 celled with a single ovule in each. *G. dependens*, an authentic specimen of which was most obligingly communicated to me by Mr. Gardner of Ceylon, has a 4 celled ovary with numerous ovules and is in fact a species *Vaccinium* with very short anther tubes.

Whether *Ceratostema* can be kept distinct I am unable to say, but, judging from the really essential points of the character, apart from the numerous non-essential ones introduced by Dunal, I think not. *Thibaudia* has one good distinguishing mark in the union of the filaments between themselves and their attachment to the base of the corolla. But if that is to be taken as the essential character of the genus, then both *Macleanea* and *Anthopterus* should be associated as sub-genera, the collateral marks derived from the calyx and corolla being scarcely of generic value in a family where these organs are so variable.

Influenced by such considerations I have without hesitation referred all the Indian species to *Vaccinium* with the sub-generic appellation *Agapetes* to mark their Asiatic origin. The following I consider the correct characters of the genus, and would view all species in which they meet as genuine species.

Calyxradherent, limb 4-5 lobed. Corolla tubular 4-5 cleft. Stamens 8-10 epigynous, anthers adnate, 2 celled often furnished with 2 bristles on the back, the cells ending in a tube open at the apex. Ovary 4-5 celled, placentas ascending, usually, bearing the ovules on the margin. Berry 4-5 celled, often spuriously 10 celled through the adherence of the walls to the thickened placentas. Seed several in each cell testa coriaceous or somewhat bony: albumen fleshy: embryo orthotropus, radicle next the hilum.

Trees shrubs, &c. &c.

According to this character it is of no moment whether the lobes of the calyx are large or small, whether the corolla is long or short, thick or thin: the anthers may or may not be bristled, but are always expected to have the cells more or less prolonged into tubes, and to have the number of cells of the ovary equal to those of the lobes of the calyx and corolla, with, more or less distinctly, free ascending placentas and a plurality of ovules. Such is the genus *Vaccinium* as understood by me when naming the following and several other still unpublished species in my herbarium.

1180. Vaccinium (Agapetes) Wallichianum (R. W.) leaves subsessile, lanceolate acuminate, entire glabrous, congested towards the ends of the ramuli: racemes axillary, erect, shorter than the leaves: flowers tubular, drooping, and with the pedicels and calyx sprinkled with longish hairs: pedicels dilated cup shaped at the apex: anthers rough, without bristles, ending in two long tubes cohering nearly half their length: stigma dilated.

Selhet? I am indebted to Dr. Wallich for the specimen from which this drawing was made, but without station or name, I have therefore dedicated it to him. The leaves are from 2 to 3 inches long, and about one broad, the flowers dark pink about an inch. In some points it seems to correspond with Roxburgh's *Ceratostema variegata*, but judging from Royle's figures of that species, is certainly distinct if his is the true plant.

1181. VACCINIUM (A.) VERTICILLATUM. (R. W. *Agapetes verticellata* Don *Thibaudia setigera* ? Griffith MSS.) Stems shrubby : leaves verticillate, lanceolate, acuminate, minutely denticulate, acute at the base : flowers racemoso-corymbose : peduncles and calyx hispid, corolla glabrous, " corolla about an inch long, 5 lobed, lobes short, filaments slightly cohering, anthers bifid, stigma simplish (sub-simplex.)"—*D. C. Prod.* 7, 554.

Pundua mountains, Wallich; Khasya, Griffith. I am indebted to Mr. Griffith for my specimens.

It is with considerable diffidence I have adopted the present in preference to Mr. Griffith's name, as the two species seem very nearly allied if actually distinct. *V.* (*A.*) *setigera* is said to have the leaves elliptic-lanceolate attenuated, obtuse at the base, but in *verticillata*, acute at the base; that added to verticillation is the principal character and they associate in the specimen before me. There is another point in which the specimen agrees with the latter, the filaments in it are glabrous while in *setigera*, they are said to be bearded.

The magnified corolla is represented much too hairy, an error entirely owing to the imperfection of our lithography, for in the original drawing it is shown scarcely even pubescent : some of the young unexpanded flowers have a few scattered hairs near the point the expanded ones, unless when seen under a considerable magnifier, appear quite glabrous.

1182. VACCINIUM (A.) HIRSUTUM. (R. W.) leaves elliptic-lanceolate, entire, glabrous or subpubescent, racemes erect, corymbose, many flowered : flowers tubular, long pedicelled : pedicels shorter than the peduncles, slender and like the calyx and corolla, hairy : filaments short, anthers pubescent, without bristles, ending in two long tubes cohering nearly half their length.

Silhet ? I received the specimen along with the above, No. 1180, from Dr. Wallich, without station or name. Though rather imperfect I have ventured to introduce a figure of it, being so very distinct from all I have seen, nor does it correspond with any described species.

1183. VACCINIUM (A.) SERPENS (R. W.) shrubby, procumbent : branches terete, the young shoots clothed with coarse dark brown hairs : leaves coriaceous, subsessile, distichous, subcordato-ovate, obtuse, mucronate, glabrous on both sides, recurved, and slightly denticulate on the margin : flowers axillary, solitary or rarely paired : pedicels shorter than the leaves, slender, hairy : calyx tube 5 winged, lobes of the limb membranaceous ovate, ciliated, with glandular hairs : corolla tubular : filaments short, pubescent : anthers without bristles, cells short ending in long filiform tubes.

Bootan, Phullong Woods, Griffith.

This seems quite procumbent probably growing like ivy on trees. The leaves are from 8 to 10 lines long and half as broad, ovate, or sometimes slightly cordate at the base when dry, somewhat corrugated on the surface, convex above, each ending in a bristle. The dried calyx is brownish, scariose and translucent when wetted, the lobes decurrent forming wings to the tube, corolla about 15 lines long, glabrous within.

1184. VACCINIUM (A.) SERRATUM. (R. W. *Gaylussacea serrata.* Lindley, Royle, Dunal.) Stem fruticose : leaves approximated, narrow lanceolate, serrated, acute, rigid, coriaceous, shining, shortly petioled : bracts coloured, subulate : racemes, axillary, few flowered : flowers withering, long pedicelled, whitish green.—*D. C. Prod.* 7, 558.

Khasya, Griffith.

A careful comparison of the specimens with Royle's figure and with the character of the species satisfies me that this is really his plant, in which case the analysis shows that it is a true Vaccinium and that Dr. Lindley must have been led, by dissecting mature fruit, into the supposition that it had a 10 celled ovary.

1185. VACCINIUM (A.) VENOSUM (R.W.) shrubby, glabrous : branches terete : leaves and racemes congested on the ends of the ramuli : leaves subsessile, elliptic oblong, acute at the base, tapering to a point, serrated, rigid, coriaceous ; veins above (when dry) prominent with the interspaces somewhat bullate : racemes, axillary, congested on the ends of the branches, about the length of the leaves : flowers numerous, ovate, small, short pedicelled, with a minute subulate caducous bractea and 2 bracteoles : calyx glabrous, lobes triangular : corolla slightly hairy within, filaments about half the length of the anthers : anther cells rough, without bristles, calcarate at the base, stigma obtuse.

Bootan, Griffith.

A very distinct species easily recognized by its strongly veined somewhat bullate leaves, and numerous small flowers, leaves 3 to 3½ inches long and about 1 broad, very rigid, flowers about 2½ lines long, the pedicel about the same. The want of bristles to the anthers places it near V. serratum, the spur to the anthers is peculiar.

1186. VACCINIUM (A) MALACCENSE (R. W.) shrubby glabrous, ramuli slender terete : leaves glabrous, petioled, ovate lanceolate, acute at the base, acuminated, finely serrated : racemes longer than the leaves, many flowered, solitary, from the axils of the upper leaves : flowers drooping, short pedicelled, bractiate : bracts foliacious lanceolate longer than the pedicels : pedicels hairy with a bractiole about the middle : corolla ovate villous : filaments hairy, anthers without bristles : style length of the stamens, stigma simple, fruit globose, about the size of a pea.

Malacca, Griffith.

The largest leaves on my specimens are about 2½ inches long and 1 broad at the broadest point whence they taper to both ends. The longer racemes rather exceed that length : flowers numerous, about 3 lines long, often shorter than the adjoining bractea. The want of bristles to the anthers associates this with *V. serratum* but in other respects it is quite distinct.

1187. VACCINIUM (A) ODONTOCERUM (R W.) arboreous, glabrous, branches strongly marked with the prominent scars of fallen leaves : leaves coriaceous, linear-lanceolate, shining, slightly denticulate, short petioled : racemes axillary, rachis about the length of the petiols, pedicels slender, longer than the peduncle : flowers tubular, drooping : corolla 5 cleft variegated with darker zig zag lines : stamens longer than the tube : horns of the anthers furnished near the middle with two retrorse bristles, anther cells and filaments pubescent.

Khasya, Griffith.

Apparently a handsome species. The flowers

spring from the wood of the preceding year, covering the branches below the leaves. The most distinctive peculiarity of this species is the position of the antherial bristles, half way up the tube in place of on the back of the anther cell. The leaves are about 6 inches long by about 1 broad.

1188. VACCINIUM (A) LESCHENAULTII (R W. *V arboreum* Lesch. not Michx. *Agapetis arborea* Dun in D. C. Prod. *Andromeda symplocifolia.* Wall. L. No. 1522,) arboreous older branches glabrous, greyish white, ramuli pubescenti-villous: leaves shortly petioled, ovato-elliptic, serrated, acute, paler beneath, hairy on the costa: racemes axillary and terminal, about the length of the leaves.

Neilgherries, frequent, flowering March and April, but usually to be met with in different situations in flower and fruit at all seasons. The berries which are about the size of red currants and are agreeably acid and make excellent tarts, much resembling in taste those made with the cranberry *Oxycoccus palustris* or *O. macrocarpus.*

1189. VACCINIUM (A) NEILGHERRENSE (R. W.) shrubby, glabrous, except the pubescent young shoots and leaves: leaves lanceolate, acute at the base, acuminate at the point, racemes longer than the leaves, axillary, usually confined to the extremities of the branches: flowers whitish or rose coloured, short pedicelled, usually furnished with a large foliaceous bractea: corolla ovate, slightly pubescent: filaments hairy, anthers bristled, tubes dilated towards the apex.

On the low banks of streams Neilgherries: abundant along the banks of the Pycarrah river for a mile or two above and below the Bungalow. Flowering during the dry season, from February till April. It is nearly allied by its technical characters to the former, but is evidently quite distinct. The large foliaceous bracts supplies the best distinguishing mark, but both in habit and locality it differs.

1190. VACCINIUM (A.) AFFINE. (R. W.) shrubby, every where glabrous: leaves short petioled, from ovate lanceolate acuminate to elliptic lanceolate, pointed at both ends, crenulato-serrated towards the point: racemes axillary or more frequently from the previous years' wood about the length of the leaves: flowers secund drooping, pedicels as long as the flowers: bracts foliaceous, lanceolate, caducous, with 2 subulate bracteols at the base of the pedicels, corolla ovate: filaments slender, subulate, as long as the anthers and tubes, sparingly pubescent at the base: bristles nearly half the length of the tube: anther cells roughish, small in proportion to the size of the tubes.

Khasya—Griffith. This is very nearly allied to the following, from the same country, the difference being confined to the stamens; in this the filaments are as long as the anthers and both hairy—in that the filaments short covered with matted hair, and the anthers glabrous or nearly so.

1191. VACCINIUM (AG.) DONNIANUM. (R. W.) ramuli virgate terete glabrous: leaves short petioled, obovato-lanceolate acuminate, coriaceous, crenato-serrated: racemes axillary cernuous about the length of the leaves, many flowered: flowers drooping: corolla glabrous, villous within: filaments short, thickly covered with coarse matted hair: anthers glabrous: bristles short, tubes thick: style exceeding the stamens: stigma dilated.

Khasya, Griffith. This species is nearly allied to both the preceding and following, but I think differs specifically from both.

1192. VACCINIUM (A.) GRIFFITHIANUM. (R.W.) shrubby, ramous: branches terete, glabrous, except the pilose extreme ramuli: leaves elliptic pointed at both ends, finely serrated, coriaceous, glabrous: racemes axillary foliaceous, many flowered: flowers short pedicelled, ovate, drooping, each furnished with a leaf like bractea and two bractiols: calyx lobes ovate serrated: corolla ovate, filaments hairy, about the length of the anthers: anthers bristled ending in thick tubes.

This seems much allied to *V. Leschenaultii,* but is I think quite distinct.

1193. VACCINIUM (A.) OBOVATUM. (R. W.) shrubby, procumbent diffuse, glabrous: ramuli slender, very leafy: leaves short petioled, obovate-cuniate, entire, subrivolate on the margin: flowers axillary solitary drooping, pedicels about the length of the leaves: calyx and corrolla glabrous, stamens exserted, filaments very short, anther cells united at the base forming a spur, bristled: tubes about twice the length of the anther cells: berry globose about the size of a small pea.

Cheera Pungee.—Griffith.

In habit this seems to approach *Arc. uva-ursi* but otherwise, is a true Vaccinium, and certainly cannot be mistaken for any other I have seen.

1194. VACCINIUM (AG.) DUNALLIANUM. (R. W.) arboreous or shrubby, glabrous: leaves elliptico-lanceolate, ending in a long slender acumen, entire, coriaceous, changing to a pale sallow brown in drying: racemes axillary, gemmate at the base, shorter than the leaves: scales of the buds ciliate concave: corolla campanulate: filaments short, broad, pubescent: anthers setigerous about the length of the corolla: berry orbicular small.

Bootan.—Griffith.

This a curious and very distinct species, most easily recognised by the peculiar acumen of its leaves, and, in dried specimens, by the unusual pale brown colour it acquires during that process.

The scally buds from which the racemes spring are also peculiar in this species and bring it towards Rhododendron. Fig. 5 of the plate represents outside and inside views of one of the scales.

1195. GAULTHERIA LESCHENAULTII (*D. C. G. ovalifolia Wall. List No.* 1523. *Andromeda Katagherensis,* Hook Icon. 246. *Leucothœ Katagherensis. D. C. Prod.* 7, p. 606. *Andromeda flexuosa!* Moon) glabrous, ramuli subtrigonous: leaves pitioled ovate or obovate, terminating in a gland, crenulate, punctuate beneath: racemes axillary or lateral pubescent, a little shorter than the leaves, erect: bracts concave acute glabrous, one under the pedicel, two near the flower. D. C. Prod. 7—593.

Neilgherries, abundant and to be met with in flower at all seasons. It is a considerable sized ramous shrub with very thick coriacious leaves and pure white flowers. Berries blue.

I have adopted D. C. specific name in preference to Wallich's catalogue name as having a specific character attached: on the same grounds Hooker's specific name held priority had he correctly recognized

the genus. It seems curious that D. C. should have overlooked the identity of Hooker's plant with his own as the figure is most characteristic, especially when aided, as it is, by a good character and description. The oldest name is undoubtedly Moon's, but he also referred it to a wrong genus.

1196. GAULTHERIA FRAGRANTISSIMA. (Wall.) glabrous, erect, ramuli somewhat 3 cornered : leaves elliptic-oblong, acute at both ends, dentate, coriaceous : racemes axillary, solitary, straight, puberulous, about half the length of the leaves, bracts concave acute ; 2 under the calyx, one under the pedicel. D. C. Prod. l. c.

Ceylon—Col. Walker. There are some slight differences between the Ceylon and Nepaul plants, but not sufficient I apprehend to constitute them distinct species.

1197. GAULTHERIA GRIFFITHIANA (R. W.) shrubby, glabrous : leaves short petioled, elliptico-lanceolate, acutely serrulate, coriaceous : racemes axillary, solitary, erect, much shorter than the leaves, puberulous : bracts acute, concave and with the sepals ciliate ; bractioles somewhat remote from the flower : filaments short, ventricose in the middle, hairy.

Bootan, Griffith.

This species seems very distinct from all the Indian ones differing in the form and in the delicate serration of the leaves, the short racemes, ciliate bracts and calyx, but especially in the bellied filaments.

1198. ANDROMEDA (PIERIS) LANCEOLATA.—(Wall.) leaves lanceolate, acute at the base, acuminated, entire on the margin : racemes simple, flowers secund : corolla oval cylindrical, pubescent. *D. C. Prod.* 7, p. 599.

Khasya, Griffith.

If this is really Wallich's plant which the shape of the leaves renders somewhat doubtful, the specific name seems less appropriate than his usually are. It may however be merely a broader leaved form as I have another specimen of apparently the same species with lanceolate leaves and it corresponds in other respects.

Being unable to detect any sufficient generic difference, I have followed Endlicher in reducing the genus *Pieris* to *Andromeda.*

1199. ANDROMEDA (P.) OVALIFOLIA. (Wall.) leaves oval, obtuse at the base, acuminated, entire on the margin : racemes simple, flowers secund subpubescent : corolla oval cylindrical, puberulous. *D.C. Prod. l. c.*

Simla, Countess Dalhousie : apparently, judging from a finely preserved specimen, a beautiful tree.

1200. ANDROMEDA (P.) FORMOSA. (Wall.) leaves lanceolate, acute at the base, acuminate, serrulate, coriaceous, glabrous : racemes paniculato-thyrsoid, corollo ovate. *D. C. Prod. l. c.*

Bootan, Griffith.

Leaves crowded, 2-3 inches long, racemes delicately pubescent, lobes of the calyx with a marginal nerve.

1201. RHODODENDRON ARBOREUM. (Smith.) arboreous, leaves lanceolate, glabrous, scaly beneath : flowers compact corymbose : ovary pubescenti-tomentose 8-10 celled. *D. C. Prod.* 7—720.

Neilgherries, very frequent. Flowering in great perfection in March and April. Leaves rusty coloured beneath, flowers deep crimson. The tree itself, apparently from usually growing in exposed situations, has a gnarled stunted appearance ; its compact capitula of flowers always terminal.

1202. RODODENDRON GRANDE. (R. W.) Arboreous, everywhere glabrous except the bractial scales, the inner series of which are densely tomentose externally : leaves oblong-lanceolate, cuspidately acuminate, somewhat obovate, (the broadest part nearer the apex than the base) petioled, entire, coriaceous, whitish scaly beneath : corymbs terminal capitate : bracteas obovate cuspidate tomentose : corolla subcampanulate, limb 8 cleft lobes emarginate : stamens 16 the length of the tube : stigma dilated, ovary 16 celled.

Bootan, Griffith. Mr. Griffith briefly characterises this species in the single word "magnifique," which idea I have attempted to convey in the specific name. In this the same relative proportion of parts exist as in *R. arboreum,* that is the number of stamens and cells of the ovary are equal and double those of the calycine teeth and lobes of the corolla, but in this they are a half more numerous ; this mark equally distinguishes it from *R. formosum* which is 10-androus.

1203. RHODODENDRON GRIFFITHIANUM. (R. W.) arboreous, glabrous, branches terete : leaves coriaceous, crowded on the ends of the branches, oblong-oval, acute at both ends, mucronate : racemes terminal lax, flowers longish pedicelled : calyx entire, scutelliform : corolla campanulate, 5 lobed, spreading : stamens 15 (?) shorter than the corolla : anthers truncated opening by pores, ovary hairy 10 celled.

"Bootan, a beautiful species, 1045—of journal."—Griff. MS.

Every flower in my specimen has so suffered from attacks of insects that I could only find one in a fit state for dissection, and from it we learn that this species has a 5 lobed corolla, 15 stamens and a 10 celled ovary. Here is a marked departure from all the other sections of the genus hence, if further acquaintance with the species establish the correctness of these numbers, this must form either the type of a new section or of a genus.

1204. LYSIMACHIA (EPHEMEDRUM) LESCHENAULTII (Duby in D. C. Prod. V. 8.) erect ramous, leaves opposite or ternate lanceolate, sinuate (?) entire, acuminate, glabrous, short petioled : flowers racemose crowded : bractiols linear subulate, acuminated, much shorter than the pedicels : calyx much shorter than the companulate corolla, divisions linear lanceolate acuminate, lobes of the corolla obovate obtuse, entire : stamens equal exserted : style filiform. D. C. Prod.

Neilgherries, frequent in low moist or even marshy soils and generally to be met with in flower. Plant herbaceous perennial from two to three feet in height. Flowers on first opening reddish-white, streaked with darker lines afterwards acquiring a rather deep lylac tinge.

1205. ANAGALLIS LATIFOLIA (LINN) roots herbaceous : decumbent, ramous : branches elongated, 4 sided slightly winged : leaves opposite or ternate broad ovate, semiamplexicaul, subacute, spreading : peduncles longer than the leaves ; calyx a little shorter than the corolla, lobes narrow linear-lanceolate acuminate : corolla nearly twice as long as the stamens, lobes

obovate obtuse, finely serrulate : filaments hairy : capsule about the length of the calyx. *D. C. Prod.*

Neilgherries, in corn fields and other cultivated lands : flowers blue. Duby asks if this is a genuine species ? The question is not easily answered but so far as my slender acquaintance with *A. arvensis* enables me to judge, I confess I feel disposed to answer in the negative, though, on slightly comparing my Neilgherry specimens with European ones of *A. arvinsis* there does appear some difference. This more nearly approaches the variety *A. cœrulea* if indeed it is not that very plant, of which however I have not a good specimen to compare. The Indian plant is much more luxuriant than the European.

1206. Mœsa Indica (Alph. D. C.) : leaves ovato-elliptic acuminate, coarsely dentate, membranaceous, subrivolute on the margin : racemes axillary and terminal, simple or ramous at the base, glabrous, twice the length of the petiole : bracts lanceolate acuminate, shorter than the pedicel, bractioles ovate acute : lobes of the calyx ovate subciliate : corolla 5 cleft, 3 times the size of the calyx, lobes obovate subciliate spreading : ovary semisuperior stigma capitate sublobate.—*D. C. Prod.* 8. 80.

Alpine jungles in various parts of the peninsula, on the Eastern slopes of the Neilgherry rather frequent. Between this and *M. Perrotettiana* I can discover no satisfactory difference. This may indeed be that plant as it grew on the Neilgherries, but I have numerous specimens from other localities which seem all, with but slight variations, to correspond with it. I have therefore adopted the older name though I suspect the newer might have been safely given. The genus indeed seems a very difficult one, different specimens varying in appearance but scarcely affording specific marks of distinction.

1207. Embelia glandulifera (R. W. By an error *E. Ribes* on the plate) : glabrous : leaves ovate, lanceolate, obtusely acuminate, entire, furnished with numerous glands on either side of the mid rib : flowers polygamous, and hermaphrodite, small, panicled or racemose : panicles axillary, sparingly branched or sometimes reduced to a simple raceme : lobes of the calyx ovate, acute : petals elliptical, puberulous, tomentose on the margin, fruit small globose.

Neilgherries &c.

This species is so nearly allied to *E. Ribes* that when naming the figure I supposed it that species. On subsequent more careful comparison however with good specimens of the Ceylon plant I have seen reason to change my mind and view the continental plant as distinct, from the insular species. The axillary sparingly branched inflorescence forms a distinguishing mark of some, but I think only secondary importance, the presence of glands along the mid rib I consider the essential character, as I find it constant in specimens from the Neilgherries, Belgaum, and Mahablishwar Hills, but absent in all my Ceylon specimens as well as in others received from Mergui and Malacca. They are not always so numerous as they are represented in the drawing, neither does the inflorescence usually partake so largely of the racemose character, but still I believe the figure true for the specimen represented. *Mœsa missionis* D. C. is referable to this species, if a specimen in my herbarium, so called, is correctly named. But of that I am uncertain. The flowers of both this species and *E. Ribes* are polygamous but I am uncertain whether there are male and bisexual plants, or that the same plant produces both kinds of flowers according to the season at which they blossom. I suspect the latter however to be the case.

1208. Embelia Gardneriana (R.W.) : young branches and petioles ferrugeneo-hirsate : leaves ovate, rounded at the base, crenulato-serrated, coriaceous, glabrous, except the sparingly hairy costa, reticulately veined : peduncles axillary short, ferrugineo-tomentose : racemes capitulate : pedicels about as long as the peduncles, glabrous : calyx much shorter than the glabrous corolla : petals obovate obtuse longer than the stamens, sprinkled with purplish coloured spots.

Sisparh on the western slopes of the Neilgherries in clumps of jungle, rare. Flowering February and March.

A diffuse shrub, remarkable in the genus for the venation of the leaves which, when dry, form a quite a net work of white lines. In habit it associates with Choripetalum but its quinary flowers seems to keep it distinct. I have dedicated this very distinct species to Mr. Gardner of Ceylon, who accompanied me when it was found and gathered the first flowering specimens. Thro' an oversight of the draftsman the branches are represented glabrous in place of clothed with short hairs.

1209. Embelia Tsjeriam-cottam (Alph. D.C.) glabrous : leaves ovate, entire (scarcely) coriaceous, short petioled : racemes axillary solitary, shorter than the leaves : flowers subsessile crowded, polygamous : petals ovate-lanceolate spreading, villous within : anthers pointed.

Hab. Malabar ? I am uncertain regarding the station as the specimens were collected and the drawing made while I was in England, but I believe in Malabar. The few specimens I have corresponding with the figure are all male flowered, which will I think account for the differences between my figure and Rheede's. In these specimens the leaves are not coriaceous, but that may perhaps be owing to their being still young, scarcely full grown. In some other specimens which I doubtfully refer to *E. Basaal*, and in one, which is I suspect the fertile plant of this species, they are somewhat coriaceous.

These two species seem too nearly allied, the only difference I can see being in the shape of the leaves which in this are more distinctly ovate, in that somewhat elliptico-lanceolate sub-acuminate.

The specimen figured seems an intermediate form which might serve to unite them, in which case I should propose to dedicate the united species to the original discourser.

They are also very nearly allied to *E. villosa*, of which I possess a specimen from the Himalayas, this being glabrous that pubiscent is the only difference I can see.

1210. Choripetalum aurantiacum (Alph. D. C.) leaves ovate-lanceolate, subacute at both ends, entire, coriaceous, long petioled : racemes much shorter than the leaves, longer than the petiols, bracts acuminate as long as the pedicels, petals linear lanceolate reflexed : filaments longer than the petals, much longer than the anthers.—*D. C. Prod.*

Neilgherries also Malabar, flowering during the dry season. When in full flower the branches are quite covered with the numerous racemes of bright orange coloured flowers. The leaves vary considerably in

size, being from three to six inches long by from 1½ to 2 broad, usually ending in a blunt acumen.

According to Professor Arnott the genus *Choripetalum Alph. D. C.* is identical with the genus *Samera* Linn : and that this plant, consequently, ought to be called *Samara aurantiaca*. To this view I am not yet prepared to accede, unless the genus *Myrsine* be added, as I feel all but certain that *S. lœta* Lin. is *Myrsinæ capitellata*. Wall. and Alph. D. C.—*Cornus Zeylanica &c. Burm. Zeyl. tab.* 31.

1211. Myrsine capitellata. (Wall.) leaves elliptico-obovate entire, coriaceous, glabrous, narrowing into the petiol: fascicles numerous, 5-8 flowered, bractiate: bracts imbricated, ovate: flowers short pedicelled; teeth of the calyx ciliate: lobes of the corolla lanceolate acute, two or three times larger than the calyx, exceeding the stamens.—*D. C. Prod.* 8—95.

Leaves 4-6 inches long, acute or obtuse, everywhere punctuate, those of the margin larger—flowers polygamous, the fascicles, owing to the bracts, resembling small cones. Nepaul.

β *Grandiflora*, leaves smaller, lobes of the corolla 4 times longer than the teeth of the calyx, Neilgherries, *D. C. l.c.—Cornus Zeylanica sylvestris altera &c. Burm. Zeyl. tab.* 31.

Ootacamund, frequent in clumps of jungle, flowering February and March, when the naked branches, below the leaves, are quite covered with its numerous compact capitulœ of flowers, an appearance which the artist has not been successful in representing. The branch in fruit conveys a better idea of its appearance in that stage.

1212. Ardisia humilis. (Vahl.) leaves obovate lanceolate, obtuse, subentire, coriaceous, contracted at the base into the petiol: racemes umbilliform, axillary and terminal, reflexed, shorter than the leaves: lobes of the calyx orbiculate, subciliate: lobes of the corolla lanceolate, subacute, twice the length of the calyx.—*D. C. Prod.* 8—129.

Eastern slopes of the Neilgherries, in subalpine jungles, in moist soil near the banks of streams, flowering March and April. This is beautiful and somewhat variable plant but is not likely to be confounded with any other species. Its showy rose or rather light purplish flowers shining black fruit and large bright shining leaves makes it a most conspicuous shrub. In favourable situations it becomes a small tree. That from which the specimens represented were taken was nearly 20 feet high. It is a widely distributed and conspicuous plant and has received several names as *A. Solanacea, littoralis, Doma, oleracea, umbellata,* &c.

I am uncertain to which of D. C.'s varieties this belongs but think his last.

1213. Ardisia rhomboidea, (R. W.); leaves rhomboidal acuminated, contracted below into the petiol, glabrous, slightly crenulately undulated on the margin: racemes axillary, much shorter than the leaves, few flowered: pedicels umbellate, bracts lanceolate acute: lobes of the calyx ovate, subciliate, three times shorter than the corolla: lobes of the corolla broad, ovate acute, longer than the stamens: fruit globose small.

Shevagherry Mountains in dense jungles, flowering August. A glabrous shrub, leaves from 2 to 3 inches long and from 6 to 8 lines broad, at the broadest part, whence it suddenly contracts towards each end, without pellucid dots, flowers small. In some respects this approaches *A. pentagona* but is I think quite distinct.

1214. Ardisia pauciflora. (Heyne D. C.): leaves long elliptic, narrowing at both ends, entire: racemes axillary scattered few flowered, much shorter than the leaves, pedicels umbellate, longer than the flowers: lobes of the calyx ovate-acute, subciliate: corolla two or three times longer than the calyx. Branches virgate, terete, puberulous at the extremities, leaves 3 to 4 inches long, pellucedo-punctuate, mixed with other larger redish ovate semipellucid ones.—*D. C. Prod.* 8—127.

Courtallum, flowering in August and September.

The plant figured seems to correspond well with the character but wants the " punctis majoribus rubescentibus ovatis semipellucidis" which I consider an important character though the want of it seems scarcely sufficient to authorize my considering this a new species, unless I had authentic specimens of the other to compare, which I have not.

1215. Ardisia Courtalensis. (R. W.): leaves obovate cuniate bluntly acuminate entire, subsessile: panicles longer than the leaves terminal lax, branches umbellate (not paniculate) few flowered; pedicels umbellate 4-5 times longer than the flowers, spreading: lobes of the calyx ovate, pointed, ciliate; of the corolla ovate, subcuspidate longer than the stamens.

Courtallum.—August and September. In subalpine jungles.

This species so nearly approaches *A paniculata* in its general characters that I should probably have been induced to consider it a form of that species had I not possessed authentic specimens from the Calcutta garden. The best and most easily recognized distinction is the compositon of the panicle: in this each branch ends in a simple umbellate raceme, in that forms a secondary smaller panicle: in this therefore the panicle is simple in that compound. Other distinctions are not wanting when the two plants are compared, the dense panicles with their numerous reflexed branches, and short pedicelled drooping flowers of that and the loose ones of this, with their long pedicelled spreading flowers, show at once the difference.

The upper 4 or 5 leaves forming a verticel round the base of the panicle, are from 7 to 9 inches long, and from 2 to 2½ broad, the fruit I have not seen.

1216. Ilix (P.) Wightiana. (Wall.): glabrous, leaves ovato elliptic or elliptic acuminate entire, coriaceous: umbels numerous axillary or from the scars of fallen leaves, pedicels about the length of the peduncles, often longer: flowers often polygamous by abortion, corolla 5-6 cleft, berry 5-6 seeded.

Neilgherries—frequent: to be met with in flower at nearly all seasons, but in greatest perfection in all March and April.

A large umbrageous tree everywhere glabrous, leaves from an inch and half to two inches long, coriaceous, shining above paler and dull beneath, usually ending in a short abrupt acumen. Flowers very numerous, small, white; at certain seasons nearly all males, at others generally bisexual. Berries about the size of a pea, red when ripe. I measured one tree 18 feet in circumference at about 6 feet from the ground.

1217. ILIX GARDNERIANA. (R. W.): subarboreous glabrous: leaves ovate lanciolate or subcordate, ending in a tapering acumen, umbels axillary or aggregated on the naked branches; pedicels often shorter than the peduncles, sparingly hairy: calyx and corolla 5 lobed, the former sprinkled with short hairs.

In clumps of jungle near Sispara on the Western slopes of the Neilgherries, flowering in profusion in February.

A small tree or large shrub, and at the time we gathered the specimens figured, one of great beauty. It was not then in fruit, indeed most of the flowers seem males. It seems very nearly allied to the preceding but differs in habit, in its much larger, more membranous, and long acuminate leaves, and also in larger and more conspicuous flowers. At first I felt disposed to consider this a variety of *I. Wightiana*, viewing the larger size of the leaves and flowers as depending on the plants being younger and more luxuriant, an error which Mr. Gardner first pointed out, I therefore dedicate the species to him.

1218. SAPOTA ELINGOIDES, (Al.D.C.): branches often spinous, ramuli ferrugenio-tomentose: leaves acute at both ends, glabrescent, entire: flowers axillary, few, pedicels the length of the petiol and like the calyx clothed with rusty coloured pubescence: lobes of the calyx ovate, acute, the 3 exterior ones broader: corolla about twice the length of the calyx, 5 cleft, lobes erect, ovate, acute; tube, externally, pilose: anthers apiculate, sterile stamens oblong subulate, the length of the stamens, the back and margins pilose.—*D. C. Prod.* 8—176.

Neilgherries, in almost every wood about Otacamund, in flower and fruit at all seasons.

A large tree with rough cracked bark, hence much covered with both parasitic and epiphytic plants of all kinds. The flowers except from their number are not conspicuous, and have no beauty. The fruit is about the size of a crab, and not unlike one, agreeing moreover in the sour austere taste of that fruit. It is made into pickles, and the nat ves cook and eat it in their curries. The spines are axillary from 1 to 2 inches long: the leaves from 1½ to 2 inches, scarcely coriaceous, flowers solitary, or 3-4 together, white, anthers extrorse, ovary hairy, 5 celled, with a single ascending ovule in each, three or four of which usually abort before the fruit attains maturity.

1219. ISONANDRA PERROTTETIANA (Al. D. C.) leaves elliptic narrowing at both ends, apex obtuse, base acute, glabrous above, slightly pilose beneath: flowers sessile, lobes of the calyx ovato-rotundate, silky, corolla deeply 4 cleft.—*D. C. Prod.* 8—188.

Neilgherries, in jungles, about Sisparah and the Avalanche, flowering February and March.

Arboreous, the ramuli clothed with rusty coloured silky hairs, leaves from 3 to 4 inches long, shining above, dull or silky beneath, flowers small, sessile, forming dense capitulæ on the leafless branches, calyx of a brownish rusty colour, corolla white, style exserted, ovary 5 celled with 1 ovule in each, fruit usually 1 seeded, obovate. The analysis of this, as regards the calyx, is not quite correct.

1220. ISONANDRA CANDOLLIANA (R. W.,) leaves obovate, oblong, bluntly acuminate, tapering at the base, glabrous beneath: flowers sessile; lobes of the calyx very unequal, exterior ones much larger and hairy: corolla deeply 4 cleft, lobes emarginate, much longer than the stamens, anthers pubescent at the apex.

Neilgherries, about Ootacamund and Pycarrah, in clumps of jungle, flowering in March and April.

This seems almost too nearly allied to the former, but still the two plants when lying side by side seem perfectly distinct, even more so than in the figures; they besides occupy different stations, and I have never met with them together.

1221-22. DIOSPYROS CANDOLLIANA: (R. W.) arboreous, glabrous, leaves elliptic oblong, obtusely acuminate, flowers axillary, aggregated sessile: calyx 4-5 cleft, lobes of the male simple, of the female revolute on the margin: corolla, tubular 4-5 cleft, tube exceeding the stamens: stamens of the male 10, filaments united by pairs at the base, anthers oblong, apiculate; of the female 4-5, sterile: ovary 4 celled (always ?) style simple: stigma 2 lobed: seed ovate, compressed; testa slightly corrugated on the surface: albumen deeply convolutely furrowed.

Malabar, flowering and in fruit in June.

A very distinct species, allied by its geminated stamens to *D. tetrasperma*, but differing in the quinary structure of its flowers. Leaves from 4 to 6 inches long, and from 1 to 2 broad, calyx clothed with rusty coloured hairs. The ovary is 4 celled in pentamerous flowers, I thence infer that is the regular number—fig. 11 of 1222 is a section of the seed and testa.

1223. DIOSPYROS DUBIA. (Wall.): ramuli tomentose: leaves ovate-elliptic, obtuse at both ends, slightly pilose above, beneath and the petiols pubescent: male flowers short peduncled, ternate, sessile: calyx 4-5 cleft, tomentose on both sides, lobes acute erect: corolla twice the length of the calyx, externally pubescent.—The bark of the older branches pale, furrowed as if corky: leaves 3.5 inches long, 1½ to 2 broad. Flowers pale, tomentose: stamens 13-14 often geminate.

Neilgherries and Serramallee Hills, near Dindigull. I have not been so fortunate as to meet with the female plant.

In drying it turns to a pale yellowish colour; the calyx and corolla are clothed with pale rusty coloured hair. The stamens in some flowers seem to be hypogynous, occupying the centre of the flower without a rudimentary ovary, in others the rudimentary ovary is distinctly present with the stamens attached round the base, scarcely if all adherent to the ovary, hence I presume Dr. Wallich's doubt as to its being a true Diospyros.

In the printed figure, owing to the imperfection of Indian Lithography, the hairy parts are represented much more densely clothed than they ought to be. The older leaves are thinly sprinkled with hairs, the younger ones pubescent.

1224. DIOSPYROS CAPITULATA (R. W.,) fruticose, ramuli tomentose, older branches glabrous: leaves oval, short petioled, pubescent above, tomentose beneath: flowers numerous, axillary, subsessile, capitulate: calyx hairy, 4 parted: corolla, deeply 4 cleft lobes obtuse, hairy on the back, stamens 16, alternately long and short, anthers oblong, bilaminate at the point, rudimentary ovary, obsoletely 4 lobed, female not seen.

Balaghaut mountains, near Madras.

This in its infl rescence and general appearance approaches *D. chloroxylon* R., but seems quite distinct.

It is at once distinguished from all the species with which I am acquainted, by its anthers being prolonged at the apex, and cleft into two thin lamellæ: leaves about an inch long and 8 lines broad, obtuse at both ends, becoming blackish in drying: capitula of flowers usually sessile, but sometimes borne on a short peduncle from 6 to 10 together.

1225. DIOSPYROS MONTANA? (Roxb.): leaves ovate acute, obtuse at the base, glabrous, membranaceous: racemes reflex-patulous, nearly twice the length of the petiol, male 5-6 flowered, female one flowered: bracts and lobes of the calyx ovate, acute, ciliate: corolla of the male twice the length of the calyx: stamens length of the tube.—Leaves 2 to 2½ inches long, from 1 inch to an inch and quarter broad, narrowing towards the apex. Flower buds ovoid conical, stamens of the male flowers lanceolate, geminate, not two anthers to one filament. Female flowers tetrandrous, ovary globose, 8 celled, styles 4, divided, according to Roxburgh, at the apex.

Courtallum, subalpine forests.

Several circumstances tend to make me now doubt whether this is Roxburgh's plant, or even a variety of it. It unquestionably corresponds in most points with his description, but the form of the calyx does not correspond, and the stigmas are not cleft. Willdnow has given a brief character and very imperfect description of another plant, which he recognised as a distinct species, under the name of *D. orixensis.* From his character it scarcely appears that they are different, but it is not probable that he would have described two specimens of the same plant as distinct species: may not this therefore be the female plant of *D. orixensis* of which he might not have had a specimen. This I can only advance as a conjecture, and as my plant agrees in so many points with Roxburgh's description, I retain his name, but with a mark of doubt attached.

1226. DIOSPYROS OBOVATA (R. W.) glabrous, except the pedicels and calyx: leaves broad obovate obtuse, tapering towards the base, coriaceous, entire: flowers axillary, sessile, aggregated in dense capitula, calyx deeply 4 lobed; lobes unequal imbricated, interior pair glanduliferous at the apex: corolla 6 lobed, about the length of the calyx, lobes obtuse: stamens 18, filaments very short, anthers apiculate: a large free, style-like, rudimentary ovary in the centre.

The female of this species is still unknown to me, but as it seems a very distinct one and may be easily recognised from the figure, I have thought it desirable to give it a place here. The peculiar calyx seems to render it probable that it may form the type of a new genus when better known.

1227. DIOSPYROS OVALIFOLIA (R. W.) glabrous, bark greyish, corrogated: leaves oval glabrous slightly coriaceous: flowers aggregated on short peduncles on the naked branches: calyx hairy, 5 lobed: corolla twice the length of the calyx, 5 cleft: stamens numerous, subhypogynous, filaments short, bearing two linear acute geminate anthers: hermaphrodite, flowers like the male with a 2 celled ovary.

1228-29. MABA NEILGERRENSIS (R. W. *M. Ebinus* on the plate) ramuli slender glabrous: leaves elliptic lanceolate, obtusely acuminate, membranaceous, glabrous: flowers axillary, males several, females solitary; calyx campanulate, 3 lobed, hairy on both sides: corolla tubular, 3 lobed, about twice the length of the calyx: stamens 6, sub-hypogynous unequal, hairy at the base: ovary 3 celled, ovules paired, stigma 3 lobed, berry 3 seeded.

Woods about Coonoor on the Neilgherries.

When naming the drawing, I did not sufficiently advert to some points of the specific character nor to the description given by Rumphius, being unfortunately satisfied with a comparison of the figures which sufficiently accord. This oversight led to the mistake of naming the figure *M. Ebinus,* which I did not discover in time to have it corrected. The much larger flowers of this sufficiently distinguish the two species. It seems nearly allied to *M. Smeathmanni,* but is, I think, quite distinct.

1230. SYMPLOCOS PULCHRA (R. W.) shrubby, diffuse: ramuli, leaves, peduncles and bracts clothed with long brownish hair: leaves ovate oblong, acuminate, slightly cordate, setosely serrated: peduncles axillary filiform, several flowered (3-4) calyx lobes ciliate, corolla glabrous, ovary pubescent, 3 celled.

Sispara on the Western slopes of the Neilgherries, on the banks of streams, flowering in February.

A beautiful species, the snow white flowers contrasting with excellent effect with the brownish tawny coloured under surface of the leaves against which they press in the growing plant.

1231. SYMPLOCOS GARDNERIANA. Arboreous, ramuli ferrugenio-tomentose: leaves petioled, elliptic acuminate, denticulate, glabrous above, tomentose on the costa beneath, pubescent on the lamina, veined, (4th series of veins visible under the lens): racemes axillary, about half the length of the leaves: flowers crowded, bracts, bracteols and calyx tomentose: style the length of the stamens, stigma capitulate.

In woods between Ootacamund and Pycarrah, on the Neilgherries, flowering in February. A considerable tree of great beauty when covered with its numerous white flowers and deep green leaves.

1232. SYMPLOCOS MICROPHYLLA (R.W.) fruticose, ramous, glabrous: leaves elliptic, obtuse, serrated, coriaceous, glabrous, or with a few hairs on the costa beneath, racemes axillary about twice the length of the petiols, pilose: bracts ovate, obtuse, and like the calyx pubescent: lobes of the calyx subórbicular, ciliate: corolla scarcely longer than the stamens.

Neilgherries, high on the hills behind the Avalanche Bungalow on the banks of small streams, flowering in February.

A very ramous bush 5 or 6 feet high, and when found was covered with its numerous fragrant white flowers, leaves from 1 to 1½ inch long, and from 8 to 10 lines broad, slightly crenato-serrated. Fruit I have not seen.

1233. SYMPLOCOS OBTUSA (Wall.) leaves elliptic obovate, orbicular above, tapering towards the base, subdenticulate: racemes axillary, twice the length of the petiols, simple, and like the flowers glabrous: lobes of the calyx roundish.—Leaves 3 inches long 12-15 lines broad, veins prominent beneath, no quaternary ones: bracts caducous: tube of the calyx obconical, flowers subsessile, lobes of the calyx ciliolate.—*D. C. Prod.*, 8, 255.

Neilgherries, frequent in woods about Ootacamund, flowering during the dry season, April and May.

1234. SYMPLOCOS FOLIOSA (R. W.) very ramous, ramuli terete, marked with numerous elevated scars of fallen leaves, very leafy on the extremities: leaves ovate lanceolate, acute or somewhat acuminate, coriaceous, serrato-dentate, glabrous except a few scattered hairs on the costa: racemes axillary, several congested on ends of the branches, about twice the length of the petiols, hairy: flowers crowded, sessile, calyx tube short, glabrous, lobes unequal, one longer, ovate obtuse hairy on the back: corolla glabrous, about the length of the stamens: ovary hairy, 3 celled, with about 4 pendulous ovules in each.

Neilgherries, rare, flowering during the dry season. This species resembles *S. Gardneriana*, but appears quite distinct. I am not well acquainted with the tree, the specimens having been procured by a native collector.

1235. SYMPLOCOS NERVOSA (Alph. D. C.) leaves oblong, lanceolate, acuminate at both ends, crenately denticulate, very glabrous, shining above; beneath the veins and venulæ areolate: racemes simple axillary, twice the length of the petiols, and with the ovate acute bracts, pilose: lobes of the calyx ovate, oblong acute, hairy on the back.—Leaves 3-5 inches long, 12-15 lines broad, the broadest diameter often beyond the middle, petiols, about 6 lines long. Bracts caducous, 2-3 lines long, bracteols oblong, solitary at the base of each flower.—Nearly allied to *S. racemosa*, but different, the 4th series of veins conspicuous in Herbareum specimens: leaves less coriaceous, tube of the calyx and lobes longer, bracteols narrower, the apex of the ovary not free, glabrous.—*D. C. Prod.*, 8, 256.

Neilgherries, in woods about Ootacamund, and towards Pycarrah. Flowering during the dry season. It differs in some points from the Nepaul plant described by D. C. The leaves are serrated, not remotely dentate, and the calyx is obtuse not acute. Whether a comparison would furnish other points of difference sufficient to constitute this a distinct species I am unable to say. The difference between it and specimens I have named *S. racemosa*, seem to indicate that it is not distinct from *S. nervosa* of Nepaul.

1236. SYMPLOCOS MONANTHA (R. W.) fruiticose, very ramous, glabrous, leaves short petioled, elliptic-lanceolate, acuminate, serrated: flowers axillary, solitary sessile: calyx glabrous, lobes ovate pointed, much shorter than the corolla: corolla 5 parted, lobes roundish, obovate, the length of the stamens: stigma capitate.

Shevagherry Hills, near Courtallum, flowering in August. A leafy very ramous shrub, leaves from 1½ to two inches long, ending in a tapering acumen, about 8 lines broad. The solitary flowers of this species at once distinguishes it from all the other Indian ones with which I am acquainted.

1237. SYMPLOCOS PENDULA (R. W.) arboreous, glabrous; leaves, from oval obtuse to somewhat obovate, entire, coriaceous: peduncles axillary, short, few (2-4) flowered: flowers pendulous, tubular: calyx ciliate: corolla 5 lobed: stamens numerous, about 3 series, inserted on the throat, exserted; filaments compressed contracted filiform at the apex: style rather exceeding the stamens; stigma capitate; ovary two celled, ovules superposed: fruit oblong.

Pulney Mountains and Ceylon, flowering September.

According to Mr. Bentam's views of this genus, (Lin. Trans. vol. 18) this is the only genuine species of Symplocos yet found in India, all the preceding ones being referable to the Linnean genus, *Hopea*, which he thinks ought to be restored and kept distinct. In this view I most fully coincide, as the difference between the two forms is too great to admit of their ever being viewed as true congeners, or even subgenera of one genus. Alph. DeCandolle however having in his revision of the genus united them, I have thought it better to adopt his genus, as it stands, than incur the risk of adding to the existing confusion, by partial changes. This species differs from the character of the genus in having a two not 3 celled ovary, but agrees in all other respects, it will therefore form a section of the remodelled genus Symplocos, agreeing in that peculiarity with Al. DeCandolle's section Palura of the present one.

1238. OLEA GLANDULIFERA (Wall.) leaves elliptic, acute at the base, acuminate at the point, entire, glabrous, glandulose beneath in the axils of the nerves: panicles axillary shorter than the leaves, glabrous: calyx four toothed: stigma capitate.—Petiols 9-10 lines long: leaves 4-5 inches long, 15-18 lines broad, fruit ovate, somewhat pointed, about 4 lines long.—*D. C. Prod.*, 8, 283.

Neilgherries, in woods near the Avalanche, flowering March and April, the fruit of the preceding year still on the trees. A low tree with a fine spreading head. Leaves pea green, flowers numerous, small, white. Panicles numerous, axillary, congested towards the ends of the branches shorter than the leaves. Ovary pubescent. The glands on the under surface of the leaves form the most characteristic feature of this tree. The original specimens from which the character is taken were gathered in Nepaul, but seem to agree well with our plant.

1239-40. OLEA POLYGAMA (R.W.) polygamous, leaves obovate cuspidate, tapering at the base, short petioled, entire, coriaceous; those of the male plant smaller, tending to lanceolate: panicles axillary, many flowered, those of the male larger and more diffuse: hermaphrodite flowers somewhat larger: corolla 4 cleft, ovary ovate, with a distinct style and capitate stigma: in the male all trace of ovary wanting: fruit.

Neilgherries, in woods between the Avalanche and Sisparah, flowering February and March.

A small, but when in flower, a very beautiful tree, being then, especially the male, covered with innumerable flowers, the fertile tree is much less conspicuous. Bark greyish, smooth: leaves glabrous, coriaceous, terminating in a rigid point, acquiring in drying a ferruginous tint beneath, and brownish above. Panicles cymose, each division terminating in a cluster of from 8 to 10 flowers. The fruit I have not seen.

1241. OLEA LINOCIEROIDES (R. W.) leaves short petioled, elliptic oblong, abruptly acuminate, entire, glabrous, somewhat coriaceous, transversely veined: peduncles axillary, much shorter than the leaves, trichotomous, each division terminating in a capitulum of flowers: flowers sessile, calyx 4 lobed, ciliate: corolla deeply 4 parted, the divisions long linear subulate, united by pairs to the filaments, three or four times the length of the stamens: ovary ovate, style short, 2 cleft at the apex: drupe oblong bony, 1-seeded: seed albuminous, albumen horny, embryo foliaceous, nearly the length of the albumen.

Courtallum, in dense forests, flowering in August.

A small tree or large shrub, flowers white. It was not without considerable hesitation that I placed this species among the Olives, from which it seems to be well distinguished by the form of the corolla, and my first thoughts were to constitute it the type of a new genus. Further consideration, however, and a closer examination of the distinctive characters of the genus induced me to place it here, as being its most suitable station. The drupaceous fruit removes it from the *Syringeæ*, the albumenous seed from the *Chionantheæ*, with which the flowers would otherwise associate it. Among the genera of *Oleineæ*, it might have been with equal, or perhaps, greater propriety, referred to either *Picconia* or *Notelæa*, but after comparing it with the characters of each, it seemed to differ nearly as widely from both as from *Olea*, with the character of which it accords in every point except the corolla, and therefore seems to form the transition from the one to the other: having the fruit and habit of *Olea*, and the deeply parted corolla of *Picconia* and *Notelæa*.

1242. Olea robusta (Wall. *Phillyrea robusta*, Roxb. *Visiania robusta* D. C.) leaves elliptic, oblong, acute at the base, acuminated at the apex, entire: panicles terminal, large, diffuse, rachis and pedicels pubescent: style clavate: fruit subcylindrical.—Arboreous, wood very hard, leaves 3-4 inches long, 1 to 1½ broad, flowers somewhat fragrant, fruit size of a bean. —*D. C. Prod.*, 8, 289.

A not unfrequent, usually small sized, tree, in alpine jungles in Southern India, the specimens figured were gathered on the Eastern slopes of the Neilgherries, where it is to be met with in flower or fruit at all seasons.

The genus Visiania of De Candolle only differs from Olea in the fruit. He remarks of it—"Genus inter Oleam et Phillyream medium priori dispositione florum et albumine carnoso, posteriori putamine chartacco affine." From this it appears, it only differs from Olea in having a paper-like fragile putamen, while Olea has a hard bony one, a distinction to which I cannot attach generic value.

1243. Ligustrum Neilgherrense (R. W.) subarboreous, glabrous, leaves ovate, elliptic, acute or cuspidately acuminate, coriaceous, thyrses on the ends of the branches lax.

Neilgherries, on banks of streams, flowering during the rains in May and June. A small tree or large shrub; leaves often subalternate, from 1½ to 2 inches long, and about 1 to 1½ broad, the larger ones usually terminating in a short acute acumen, flowers numerous, fragrant and large for this genus.

Very nearly allied to the following, as the extreme forms of each seem to pass into each other. They appear distinct, the one being common and very contantly retaining the form of a shrub in nearly all situations, while the other is very local and attains a much larger size. It appears to me that D. C. has included both under his character of L. Perrottetii, I have limitted that name to the more generally diffused species, which is most correctly compared to *L. vulgare*, which it much resembles.

1244. Ligustrum Perrottetii (D.C.) branches puberulous at the apex, leaves elliptic, obtuse at both ends, or subacute, glabrous, coriaceo-carnosulous, the thyrses terminating the branches, compound compact. D. C.

Neilgherries, frequent; to be met with in nearly all situations, on hilly pastures and banks of rivulets, and very uniform in its habit in both.

A ramous leafy shrub, from 2 to 4, or 5 feet high, leaves from 1 to 1¼ inch long, by about 6 to 8 lines broad, of a dark green color, usually obtuse at both ends, but occasionally somewhat acute: ramuli numerous, short, each terminating in a compact thyrse of fragrant white flowers, fruit oval, obtuse at both ends, about the size of a small bean.

D. C. hints that perhaps *L. Nepalense*, is a native of the Neilgherries; I have not met with any plant corresponding with his character, "branches softly villous," and "leaves villous beneath."

1245. Linociera intermedia (R. W.) leaves elliptic, acuminate at both ends, long petioled: panicles axillary, diffuse, about as long as the leaves: flowers aggregated on the points of the ramuli, sessile, often male by abortion: ovules ascending, stigma capitate, 2 lobed, fruit oval, one seeded.

Eastern slopes of the Neilgherries frequent, flowering during the rainy season.—Arboreous, glabrous, leaves opposite, from 6 to 8 inches long, including the petiol, panicles axillary, varying much in size, the larger ones being about the length of the leaves, flowers numerous, white, frequently sterile by abortion, and then the panicles attain their greatest size; fertile panicles are generally shorter than the leaves. Flowers small, ovules ascending. I am uncertain whether this last structure is general throughout this 'Tribe,' but if so, the direction of the ovules afford a mark by which it can, when in flower, be distinguished from the Oleineæ; ascending in this, pendulous from the apex of the cell in that.

This species seems exactly intermediate between *L. macrophylla* and *ramiflora*, but is more nearly related to the former.

1246. Linociera malabarica. (Wall. Alph. D. C.) leaves elliptic, obtuse, cuneately attenuated at the base, glabrous on both sides: racemes axillary, much shorter than the leaves, few flowered; the ramuli bearing 1 to 3 sessile flowers on the apex: pedicels and calyx pubescent, petals linear chanelled. Petiols about 2 lines long, leaves 2 inches long, and about 15 lines broad, fruit oval, obtuse at both ends, about the size of a bean.—*D. C. Prod.*, 8, 292.

Courtallum and Western Slopes of the Neilgherries, flowering February and March. A rambling shrub: leaves from 3 to 6 inches long, 12-15 lines broad, somewhat obovate, cuneate, ending in a short blunt acumen. Flowers white, having the appearance of 4 slender, lanceolate petiols, united 2 and 2, by the short stout filament, fruit ovate, oblong, smooth.

1247. Jasminum rigidum (Zenker D. C. *J. myrtifolium* Zenk. D. C. *J. tetraphis* Wight and Gardner, Calcutta Journal of Science) glabrous, erect, or subscandent: leaves ovate or oval, obtuse at the base, submucronate at the point, branches axillary, and terminal, 3-6 flowered: pedicels about the length of the tube of the calyx: lobes of the calyx 4-6, linear, subulate, erect, as long as the tube: corolla about 5 times longer than the tube of the calyx; lobes six, elliptic, submucronate, about a third shorter than the tube. Leaves short, petioled, from 10 to 12 lines to an inch and half long, from ½ or 1 or 1¼ inch broad, shining, subcoriaceous, 4 nerved, the lateral ones the larger: flowers white, fragrant, about 15 lines long.

Neilgherries, not infrequent about Coonoor and

Kotergherry, and other places about the same elevation, flowering during March and April, but generally to be met with in flower at other seasons.

This, as may be supposed from the synonyms, is a polymorphous species. I have it in all forms, and on comparing a number of specimens, but growing under different circumstances, find them all mere variations of the same species. Growing in clifts of rocks with but little soil, and stunted in its growth by the absorbed heat, it becomes *I. myrtifolium.* In rocky places, but with a larger admixture of soil it is *I. rigidum*, while in rich deep soil, sheltered and shaded by trees, it becomes diffuse with scandent branches, and is then *I. tetraphis.* The latter is the form represented in the plate, and is thus characterized by us. "Scandent, glabrous, shining, branches and branchlets roundish: petiols geniculate, leaves oblong, lanceolate, acute at the base, attenuated at the apex, (obscurely) 3 nerved: flowers from 3 to 5, terminal, sessile, lobes of the calyx 4, rarely 2 or 3, subulate, erect, about half the length of the tube of the corolla; limb of the corolla 5-6 lobed, lobes lanceolate, acute, shorter than the tube. "Nearly allied to *I. laurifolium*, Roxb., from which it chiefly differs in its sessile flowers, and fewer calycine lobes. Flowers white, fragrant, leaves from 2 to 2½ inches long, and about 12 lines broad." —*W. and G., Calcutta Journal of Natural History, vol.* 27, *pg.* 55.

1248. Jasminum bractiatum (Roxb.) scandent, branches terete, elongated, velvety: leaves ovate, oblong, acute, villous, with short petiols: fascicles terminal, subsessile, 3-5-11 flowered, bracts broadly ovate, cordate, subfascicled: calyx lobes 5-7, subulate: tube of the corolla twice the length of the calyx, lobes 5, oblong, obtuse, apiculate: style exserted, entire.—*D. C. Prod.* Aboo. Stocks.

I am indebted to Mr. J. E. Stocks for my specimens of this plant. They upon the whole agree so well with Roxburgh's character and description, that when naming the drawing, I felt little hesitation in adopting his name; the very remote stations, however, of the two plants, and the short style now leads me to doubt its correctness. In the figure the leaves are represented much too hairy, a fault mainly owing to the lithographer. They are villous on both sides, and hairy on the costa beneath. The lobes of the corolla vary from 8 to 9, the draftsman has generally conferred the latter number, perhaps because the one he took for dissection had that number.

1249. Jasminum rottlerianum (Wall.) every where except the flowers hairy, branches terete: leaves elliptic, obtuse at the base, acute at the apex; petiols jointed in the middle: peduncles 3, terminal, bearing fascicules of flowers on the apex: bracts linear lanceolate acuminate: calyx pubescent, lobes subulate: tube of the corolla thrice the length of the calyx lobes, lobes 5-7, oblong, mucronate, about one-third the length of the tube.—*D. C. Prod.* Bracts lanceolate, of a pale whitish hue, pubescent; the leaves are softly pubescent rather than hairy, much more so beneath than on the upper surface, which on old leaves becomes nearly glabrous.

Slopes of the Neilgherries rather frequent, and to be met with in flower at nearly all seasons. A rather extensively scandent species, usually met with in moist soil among trees.

1250. Jasminum Malabaricum (R. W.) scandent, branches terete, leaves broad, cordate, suborbicular, cuspidately acuminate, glabrous: petiol jointed in the middle: peduncles axillary and terminal, cymose 7-9 flowered: flowers crowded, subsessile, erect: bracts subulate: calyx campanulate 5 lobed, lobes subulate, reflexed at the apex, about one-third the length of the tube of the corolla: lobes of the corolla ovate, cuspidate about half the length of the tube.

Malabar Coast near Calicut, flowering in March and April.

An extensively scandent species, everywhere except the inflorescence, glabrous: leaves from 2½ to 3 inches in diameter, ending in a short abrupt slender acumen.

1251. Jasminum erectiflorum (Alph. D. C.) glabrous, leaves ovato-lanceolate, subcordate, long, acuminate: peduncles on the ends of the branches, ternate; with from 5-7 erect condensed flowers on the apex: bracts linear, subulate, somewhat longer than the pedicels: lobes of the calyx 6, linear subulate: tube of the corolla 3 lines longer than the calyx; lobes 6-7, oblong, acuminate, half the length of the tube. An extensively scandent shrub, extremities of the branches 4 sided, leaves 3-5 inches long, 15-20 lines broad, petiols 4-6 lines long, jointed near the base: cymes shorter than the adjoining leaves: bracts and lobes of the calyx erect: flowers white, fragrant. —*Alph. D. C. in D. C. Prod.*

Neilgherries, ascending to an elevation of about 6000 feet, flowering during the hot season.

This when in full flower is a very handsome species. Its large shining dark green leaves and numerous pure white fragrant flowers, render it a conspicuous object among the dense jungle in which it usually grows.

1252. Jasminum courtallense (R. W.) fruticose, scandent, glabrous, ramuli terete: leaves petioled, trifoliolate, leaflets petioled, broadly ovate, rounded at the base, blunt, the lateral pair a little smaller than the terminal one: panicles axillary, numerous towards the ends of the branches, many flowered, flowers subsessile: calyx campanulate, 5 toothed: corolla 5 lobed, lobes obtuse: anthers short, ovate, mucronate: style exserted, stigma globose: berries globose, about the size of a pea.

Courtallum, flowering August and September. A beautiful species nearly allied in habit to *I. flexile*, but abundantly distinct, differing in the form of its leaves, calyx, corolla, anthers, style and stigma.

1253. Jasminum flexile (Vahl.) scandent, glabrous: leaves petioled, trifoliolate; leaflets petiolate, ovate, oblong, acuminate, shining, the lateral ones about half the size of the terminal; petiols flexicose: racemes axillary, brachiate, thrice the length of the leaves: calyx campanulate, minutely and acutely 5-6 toothed.—*D. C. Prod.* Tube of the corolla about an inch and half long, 5-7 lobed, anthers subsessile, oblong, cuspidate, style shorter than the tube of the corolla, stigma oblong, obtuse, rough.

Courtallum, in dense jungle, near the bottom of the falls, flowers nearly all the year, but in greatest perfection during the cooler months.

1254. Jasminum brevilobum (Al. D. C.) branches terete, pubescent or hairy: leaves trifoliolate, the lateral pair minute often wanting, the terminal one ovate, very obtuse, or subcordate at the base, mucronate at the point, usually hairy on both sides, more rarely pubescent or subglabrous above: flowers

compactly fascicled on the ends of the branches, sessile: calyx campanulate, obtusely 5 lobed, hairy: tube of the corolla 4 or 5 times longer than the calyx, lobes of the corolla elliptic, 3 or 4 times shorter than the tube, anthers mucronate, stigma oblong, forked at the apex; cells of the ovary two seeded, berry purple, globose.

Ootacamund, Neilgherries, frequent in clumps of Jungle, climbing extensively.

This is a variable plant as regards the foliage, it certainly belongs to the 3-foliolate section, and ranks next *I. auriculatum*, though from the abortion of the lateral pair of leaflets, simple leaved specimens are of frequent occurrence. Such must have been the case in the one from which D. C. took his character as he has given it simple leaves. They also vary much in the degree of hairyness, being sometimes nearly glabrous, at others to the full as hairy as represented in the plate. The shortly lobed calyx and 2 ovuled cells of the ovary clearly associate this with the *Trifoliolatæ*, as these peculiarities are common to nearly all of them.

1255. Jasminum affine (R. W.) scandent, subglabrous, branches terete: leaves petioled, 3 foliolate, leaflets broad, ovate, subcordate, mucronate, the terminal one much larger: corymbs axillary, 3-9 flowered, numerous towards the ends of the branches, there forming a terminal panicle: calyx short, obtusely 5 lobed: lobes of the corolla lanceolate, acute, about ⅓ the length of the tube: anthers ovate, mucronate, style much shorter than the tube of the corolla, stigma linear, furrowed, cells of the ovary 2 ovuled.

Lower slopes of the Neilgherries, and on hills about Coimbatore. This, if really a distinct species, seems to occupy a station intermediate between *I. brevilobum* and *I. auriculatum*, but at the present moment, I feel doubtful whether they are not all three but one species. There are technical differences between this and *I. auriculatum*, but not, I fear, of sufficient specific value, though sufficient to induce me when naming the drawing, to consider them distinct species. The difference of inflorescence, and very different geographical position occupied by *I. brevilobum* on the summits of the highest mountains, while the others descend to the plains, seem to point it out as distinct, though its structural characters agree with those of the other two.

1256. Jasminum ovalifolium (R. W.) scandent, villous, branches terete: leaves trifoliolate, leaflets ovate, oblong, tapering slightly at the base, acuminate, villous on both sides; the axils of the veins beneath often furnished with hairy glands; lateral pair sublanceolate, much smaller than the terminal: corymbs axillary, 3-9 flowered, numerous towards the extremities of the branches: calyx campanulate, slightly 5 lobed: corolla about 7 lobed, lobes oval or subobovate, obtuse, about ⅓ the length of the tube, anthers oblong, style the length of the tube, stigma subexserted, clavate or subcapitate, cells of the ovary 2 seeded, ovules pendulous from the apex of the cells.

Malabar, flowering in April. This is nearly allied to the former, but is at once distinguished by the form of the style and stigma, which, judging from other specimens, seems the only mark on which reliance can be placed, for in other respects, if some specimens I have referred here on the strength of that character, be truly referable to this species, it is a variable plant. In them the leaves are scarcely half the size, obtuse at both ends, and glabrous on both sides, the inflorescence, however, is the same in both. These latter forms are not unfrequent in hedges, about Coimbatore, flowering during the rainy months from July to November.

1257. Jasminum grandiflorum (Lin.) glabrous, at length scandent: branches somewhat angled: leaves pinnate, leaflets 4 pairs with an odd one, oval, mucronulate, the outer ones confluent, the terminal one acuminate, panicles terminal, corymbose, few flowered: lobes of the calyx subulate, 3-4 times shorter than the tube of the corolla; lobes of the corolla oval, obtuse.—Corolla white, reddish beneath.—*D. C. Prod.*

Courtallum, but I believe cultivated, nor do I recollect of ever having met with this plant in a truly wild state.

1258. Jasminum revolutum (Sims. *I. bignoicium* Wall. *I. aureum?* Don's Prodromus,) glabrous, not scandent, branches angled; leaves alternate, pinnated, leaflets 3, 5, 7, 11, ovate, or ovate oblong, acuminate: panicles terminal, opposite the leaves, corymbose: calyx acute and acutely denticulate, lobes of the corolla subrevolute on the apex—Flowers yellow, fragrant.—*D. C. Prod.*

"Var. *β. peninsulare* (Alph. D. C.) leaflets obovate, oblong, narrowing at the base, acute at the apex, flowers few, Neilgherries frequent. An erect shrub, 2-4 feet high, flowers solitary, or three or four."

Neilgherries, abundantly distributed all over them, and always to be met with in flower, but in greatest perfection during the rains. Under the name *I revolutum*, perhaps, two species are confused, but as I am unacquainted with the original form, and as I infer that Alph. D. C. would not have referred this plant to it unless he had good grounds for so doing, I adopt his name, and bring here Wallich's *I bignoniaceum*, which must be identical with Var. *β.* of Alph. D. C. though referred by his father to a different Section, as there is no other plant having the slightest resemblance to it on the Neilgherries. D. C. refers here *I chrysanthemum* Roxb. I also bring Don's *I. aureum* here, though doubtfully, as he says, the leaves are opposite, which however, I suspect is an error, as I have a Nepaul specimen, accurately according in all other points with his character, but with alternate leaves.

1259. Ceropegia decaisneana (R. W.) twining, glabrous: leaves lanceolate, acuminate at both ends, acute, hispid above, from short scattered rigid hairs, glabrous beneath: umbels pendulous, 6 flowered, pedicels devaricated, longer than the peduncles, flowers large, ascending, mottled with purple spots, calyx lobes setaceous, corolla clavate, largely ventricose at the base, lobes of the limb cohering at the point: secondary lobes of the staminal crown about half the length of the primary, erect, slightly cleft at the apex, tipped with purple.

Neilgherries, on the road side leading from Sisparah to Malabar, but rare, flowering March and April. An extensively twining, somewhat succulent shrub, leaves from 6 to 8 inches long, about 1 broad; corolla nearly 3 inches long, about ⅓ of which forms the dilated base; secondary lobes of the crown yellow, tipped with purple without, deep purple within: follicles long and slender, not much thicker than whip cord.

1260. CEROPEGIA JUNCEA (Roxb.) glabrous, twining, subcarnose: leaves small, sessile, lanceolate, acute, peduncles few flowered: sepals subulate, corolla clavate, ventricose at the base, the lobes ligulate, nearly as long as the tube, connate at the apex, ciliate: exterior lobes of the staminal crown short, united to the middle, pilose, interior ones linear, hooked at the apex, follicles alternated, glabrous, brachiate.—Dec. in *D. C. Prod.*

A widely distributed plant on the plains of India. The specimen here represented was gathered near Coimbatore, and has been introduced as presenting one of the richest flowering specimens I have seen. The plant being succulent, and possessing an agreeable acid taste, is much eat by the Natives as a sort of salad.

1261. CEROPEGIA PUSILLA (W. and A.) herbaceous, glabrous, erect, 2-6 inches high: root tuberous: leaves linear, lanceolate, succulent: flowers axillary, solitary, erect: corolla ventricose at the base, tube cylindrical, longer than the lobes of the limb: exterior lobes of the staminal crown ciliate, shorter, the interior ones, longer than the gynostegium: follicles erect, about two inches long, attenuated at the point.

Neilgherries, in pasture ground, but rare. I found it more abundant on the banks of the Pycarrah river than elsewhere, but there too it requires to be closely looked for. The specimen figured is a large one of the plant.

1262. CEROPEGIA CILIATA (R. W.) suffruticose, twining: root tuberous, stems glabrous, leaves short, petioled, ovate, lanceolate, attenuated towards the point, coarsely pubescent on both sides, hairy on the veins beneath, ciliate on the margin: peduncles axillary, about half the length of the leaves, hispid, umbels 6-10 flowered: calyx lobes subulate, shorter than the ventricose base of the corolla: corolla glabrous, lobes cohering at the points, shorter than the tube: exterior lobes of the staminal crown emarginate, ciliate, interior ones clavate, recurved at the points: follicles about 3 inches long, linear, tapering towards the point.

On clifts of rock at Katie Falls, Neilgherries, flowing June and July. The ciliation of the margins of the leaves, a constant, though from the shortness of the hairs, not a conspicuous feature in this plant, has unfortunately been altogether overlooked by the artist: in other respects the figure gives a correct idea of the plant.

1263. CEROPEGIA INTERMEDIA (R. W.) fruticose, twining: leaves ovate, lanceolate acute, glabrous on both sides: peduncles shorter than the leaves, several flowered: sepals subulate, about the length of the ventricose portion of the corolla: limb of the corolla shorter than the tube, lobes subspathulate, ciliate, united at the point, forming a globose head: exterior lobes of the crown obsolete, interior ones long, spathulate, hairy towards the base.

Serramallie, near Dindigul, flowering October.

This species seems nearly intermediate between *C. bulbosa* and *C. accuminata*, but abundantly distinct from both.

1264. CEROPEGIA MUNRONII (R. W.) fruticose, slender, twining: leaves short petioled, narrow, lanceolate, acute, succulent? flowers large, solitary, short, peduncled; corolla ventricose at the base, tube short, contracted in the middle, limb long, deeply cleft into five slender lobes, ciliated with glanduliferous hairs, exterior lobes of the corona inconspicuous, interior ones ligulate, twice the length of the column.

Neilgherries or Coorg jungles. This species is only known to me through the accompanying figure, and a single flower for which I am indebted to Captain Munro, but without character or station. I believe, however, he found the specimens on the Western Slopes of the Neilgherries or Coorg jungles, both of which he explored.

1265. CEROPEGIA ELEGANS (Wall.) twining, glabrous, leaves ovate-oblong, or oblong-lanceolate, attenuated or shortly acuminate, acute, somewhat succulent, ciliolate: peduncles equaling the petiols, few flowered: tube of the corolla ventricose, curved at the base, purplish speckled; lobes subdeltoide, acuminate, cohering at the apex, often ciliate: exterior lobes of the staminal crown, ligulate, approximated, interior ones longer, inflexed, more or less united at the points: follicles very long, slender, glabrous, subtorulose: pollen masses brownish coloured.—*D. C. Prod.*, 8, 642.

Neilgherries, frequent. The specimens figured were gathered in Kotergherry, on the Eastern descent. I have however met with it in many other places. It varies considerably in the colour of its flowers, the limb being sometimes purple, at others pale, the ciliæ are as often wanting as present, and seem to separate readily.

1266. CEROPEGIA WALKERÆ (R. W.) fruticose, twining, glabrous: leaves long petioled, ovate, acuminate, somewhat succulent: peduncles about the length of the petiols, terminating in a few flowered umbel: pedicels nearly equaling the peduncle, furnished at the base with a subulate bract: tube of the corolla abruptly contracted above the ventricose base, gradually dilating upwards; throat campanulate, lobes deltoide cohering at the points, the margins folded back: exterior lobes of the crown about the length of the interior; interior recurved at the apex: follicles long, slender.

Ceylon, flowering in April. I first found this beautiful species in jungles on the banks of a stream by the road side going to Kandy, with General Walker, but I am indebted to Mrs. Walker for the drawing, and dissections from which the plate is taken. The tube of the corolla is speckled all over, with purple spots.

1267. CEROPEGIA SPIRALIS (R. W.) suffruticose, erect, glabrous: root tubuous: leaves long, narrow, lanceolate, acute: flowers large, solitary, short peduncled: tube of the corolla ventricose at the base, lobes of the limb long, subulate, spirally twisted, ciliate at the base: exterior lobes of the crown shorter than the column, interior dilated at the base, ligulate and free above.

Balaghaut Hills, near Madras, flowering, July and August. My specimens of this plant were few and only one, that here represented, in flower, hence the want of dissections. The figure is however, in other respects so characteristic, that there can be no difficulty in recognising the plant from it.

1268. CARALLUMA ATTENUATA (R. W.) erect, stems 4 sided at the base, subterete towards the apex, sparingly ramous: flowers confined to the ends of the branches, cernuous or drooping: lobes of the corolla lanceolate, fimbriate on the margin.

In arid plains near the foot of the Neilgherries flowering March and April. Though frequent in that locality it is far from being so local in its distribution as I have repeatedly met with it elsewhere. Through some error the dissections have not been added which however is not of much consequence as in this the structure does not differ in any essential point from the rest of the genus. But probably another opportunity of supplying the deficiency will offer.

This species is, in our contributions to Indian Botany p. 34, referred to *C. fimbriata*, Wall. further acquaintance has satisfied me that it is a distinct species. It grows in very arid stony soil generally among tufts of low thorny shrubs in which situations it not unfrequently attains a height of from 2½ to 3 feet though from 12 to 18 inches is its usual height. At the base, the stems are always 4 sided and fleshy, the flowering extremities subterete and attenuated towards the point. Flowers usually drooping, dull purple, thickly fimbriated on the margin, follicles slender, about half a foot in length.

1269 Hoya parviflora (R. W.,) scandent,leaves approximated, fleshy, glabrous, narrow lanceolate, blunt pointed : flowers few, generally paired, from a short thick peduncle ; pedicels shorter than the leaves : corolla glabrous : leaflets of the crown ovate pointed, the apex resting on the stigma.

Courtallum flowering September.

The specimens from which the drawing was made grew in thick shady jungle, thickly matted over a large stone : as a species it seems to approach *H. linearis* but the leaves are glabrous and lanceolate in place of hirsute and linear.

1270 Cosmostigma acuminatum (R. W.,) shrubby twining : leaves broad ovate or cordate at the base acuminate ; sparingly sprinkled on both sides with short hairs ; the veins especially beneath more thickly clothed : peduncles a little longer than the petiols, rigid hairy ; pedicels short, cernuous, stout in proportion to their length : corolla marked with purple spots.

Balaghaut Hills near Madras and Ceylon Flowering April and May.

This seems almost too nearly allied to C. *racemosum* from which it principally differs, so far as yet known, in its inflorescence. In this the peduncles and pedicels are short, rigid and somewhat tomentose ; in that, both are long, slender and nearly glabrous. The wide difference in geographical distribution is further in favour of their being kept distinct.

1271 Gymnema Decaisneana (R. W. *G. hirsutum* Dec. in D. C. Prod. not W, and A.) twining tomentose : leaves ovate or ovato-elliptic,subacuminate, acute hirsute above, sub tomentose beneath : peduncles axillary, about the length of the petiols : umbels compact, many flowered : throat of the corolla furnished with fleshy prominences : filaments without glands at the base : stigma conical, prolonged beyond the anthers.

Neilgherries, in flower most part of the year. An extensive climber, not unfrequent in jungles about Koonoor and Kaitie. Young branches and under surface of the leaves clothed with short tomentum, upper surface, calyx and petiols hirsute, flowers pale yellowish. This species seems to hold an intermediate place between *G. sylvstre,* and *G. hirsutum,* but differs from both.

1272. Gymnema hirsutum(W. and A.)voluble : leaves, ovate or subcordate, hirsute above, tomentose beneath : umbels short peduncled, many flowered : tube of the corolla furnished with foliaceous scales, the filaments with two black fleshy glands at the base, stigma depressed, scarcely exceeding the anthers.

Subalpine jungles, in the southern provinces of the Peninsula. Nearly allied to the former in habit and general appearance, but differs in the interior appendages of the flowers, in the filaments being much narrower, and furnished with two obovate black glands at the base, and lastly, in the flattened stigma of this, and the conical one of that.

1273. Sarcolobus globosus (Wall.) leaves ovate oblong, or oval, shortly acuminated, sprinkled above with short hairs : umbels few flowered, flowers conglobate : corolla rotate, introrsely villous : follicles large, globose, muricate.

Malacca, Griffith. I am indebted to the late Mr. Griffith for my specimens of this plant, which he had named *S. carinatus*. As they are without fruit, and the two species very much resemble each other in all other respects, he may be right, but I think not, as the corolla in this is hairy within, while in *S. carinatus* it is glabrous. The following notes taken when examining the plant, leave room to suspect that it is neither.

Calyx 5 parted, corolla rotate, tube crownless, hairy within, gynostegium exserted, stigma hemispherical, mammillose in the centre, dilated on the margin, forming acute angles on which the free erect corpuscules are inserted. Anthers with a broad membranous margin, nearly covering the stigma : corpuscules linear, free except the point of attachment ; pollen masses obovate compressed, attached to the corpuscule by a long annularly contorted stipe. Leaves oblong, ovate, subacuminate, acute, nearly glabrous.

1274. Tylophora parviflora (W. and A.) voluble, glabrous, branches slender : leaves ovate, broad at the base, or slightly attenuate or subcordate, abruptly acuminated at the apex, acute, glabrous, somewhat undulated on the margin : petiols longish, furnished with a minute gland at the origin of the limb : peduncles shorter than the leaves, flexuose, bearing two or three filiform pedicels at the flexures : flowers small, leaflets of the staminal crown broad, elliptic obtuse : pollen masses ascending : stigma convex : follicles glabrous.—*Dec. in D. C. Prod.*, 8, *p.* 607.

Courtallum, Malabar &c., not unfrequent, flowering during the autumnal months.

1275. Tylophora mollissima (Wall.) voluble, every where clothed with long soft pubescence : leaves oval or elliptic, sometimes obscurely cordate, shortly acuminate, mucronate, acute at the apex : peduncles twice or thrice the length of the leaves, flexuose, bearing on the flexures an umbel either sessile or springing from an oblong receptacle : pedicels filiform ; flowers small ; leaflets of the staminal crown truncated, or rounded at the apex : pollen masses transverse : stigma obtuse, follicles pubescent.—*Dec., in D. C, Prod., l. c.*

Neilgherries, twining extensively among bushes, almost always in flower, also Serra Mallie, near Dindigul.

1276. TYLOPHORA IPHISIA (Dec. in D. C. Prod.: *Iphisia multiflora* W. and A.) voluble, glabrous: leaves ovate or ovato-lanceolate or subcordate at the base, acute or abruptly cuspidate at the apex, glabrous, succulent; petiols glanduliferous at the origin of the limb: peduncles about the length of the smaller leaves, subflexuose, usually with short secundary peduncles bearing two or three flowers: pedicels short, stout, flowers small, dark dull purple; leaflets of the staminal crown shorter than the gynostegium: pollen masses globose, pendulous from the apex, of a flexuose terete funiculus: stigma muticous: follicles glabrous, ventricose at the base, attenuated towards the apex.

In clumps of jungle, frequent about Ootacamund, flowering during the autumnal months.

The peculiar character of the pollenia led me when I first became acquainted with this species, to suppose it formed the type of a new genus, an error which a more intimate acquaintance enabled me long ago to correct.

1277. TYLOPHORA ASTHMATICA (W. and A.) voluble, glabrous or pubescent, branches slender: leaves ovate, or roundish, abruptly acuminate, often cordate at the base, glabrous above; petiols subterete, eglandulose: peduncles shorter than the leaves with two or three sessile, few flowered umbels towards the extremity: flowers largish, long pedicelled: lacineæ of the corolla acute: leaflets of the staminal crown fleshy depressed, embracing the base of the gynostegium prolonged at the apex into a tooth equalling the gynostegum: pollen masses transverse, small, globose, stigma obtuse, follicles divaricating, attenuate glabrous.—*Dec. in D. C. Prod.*, 8, *p.* 611.

A very abundant and widely diffused plant, to be met with in nearly all situations and in flower at all seasons. Though easily recognized, it is from its liability to variation difficult to define. In the recent state it is most readily distinguished from a nearly allied species, by its redish or dull pink coloured flowers, and the toothed leaflets of the crown, the other having greenish flowers, and obtusely rounded edentate coronal leaflets. The roots partake in an eminent degree of the properties of Ipecacuana.

1278. CALOTROPIS PROCERA (R. Br. *C. Hamiltoniana*, W. and A.) lobes of the corolla patulous, revolute on the margin: leaflets of the crown of the stamens equalling the short depressed gynostegium, the circinate portion short, often acuminate.—*Dec. in D. C. Prod.*, 8, 535.

A widely distributed plant, very abundant in the Bellary districts whence the specimen figured was obtained, but quite unknown in the Southern provinces of the peninsula where it is replaced by the equally common *C. gigantea.*

1279. CYNOCTONUM CALLIALATA (Dec. *Cynanchum Callialata* Ham. W. and A.) twining, glabrous: leaves ovate or oval, shortly acuminate, cordate, with a narrow sinus at the base, glaucous beneath, above glanduliferous at the petiol, diphyllous in the axils: peduncles half the length of the petiols, flowers umbelled, mouth of the staminal crown 10 lobed, the lobes opposite the anthers bifid, the alternate ones shorter: stigma subapiculate entire: follicles winged.—*Dec. in D. C. Prod.*

Slopes of the Neilgherries, Courtallum, &c., twining among hedges and bushes. The draftsman seems either to have altogether overlooked the axillary leaflets, or they must have been wanting in his specimen. The genus Cynoctonum, is separated from Cynanchum, on account of some differences in the structure of the crown, but which to my mind do not possess more than sectional value.

1280. CYNOCTONUM ALATUM (Dec. in D. C. Prod., *Cynanchum alatum* W. and A.) twining, puberulous, ramuli bifariously puberulous, leaves ovate, or oval, acuminate, more or less cordate, glaucous beneath, above and the petiols sprinkled with hairs: peduncles short, seldom exceeding the petiol, many flowered; pedicels longer than the peduncles: staminal crown truncated, 10 crenate, the alternate denticulæ a little shorter: stigma apiculate, cleft: follicles flattened on one side, the angles winged.—*Dec. in D. C. Prod.*, 8, 529.

Courtallum flowering during the rainy months. The leaves are represented much too hairy in the figure, on the young ones, hairs are pretty thickly scattered, but the older are nearly glabrous, the artist has not observed the difference and made all alike too hairy.

This seems to be a rare plant, as I have not met with it except at Courtallum.

1281. SARCOSTEMMA INTERMEDIUM (Dec. in D. C. Prod.) twining: umbels terminal, pedicels and calyx whitish: lobes of the corolla oblong, undulated, glabrous: exterior staminal crown 10 toothed, teeth equal; leaflets of the interior ovate, equalling or exceeding the anthers: stigma conical, apiculate, obscurely cleft, follicles linear, oblong, bluntish.—*Dec. in D. C. Prod.*

Not unfrequent in arid jungles all over India, and in hedges by road sides, twining extensively over trees or bushes. The flowers are pure white, and when the plant is in full flower, from their numbers and compact arrangement, very ornamental.

1282. SARCOSTEMMA BRUNONIANUM (W. and A.) twining, umbels lateral, sessile, the pedicels and calyx canescent: lobes of the corolla ovato-lanceolate, glabrous: exterior staminal crown subplicate, 10 crenate, the alternate denticula subobsolate; interior shorter than the anthers: stigma apiculate, subentire.

Coimbatore, in arid jungles, flowering during the dry season, also in other similar localities, extensively over the southern provinces but generally rare. Like the other it twines extensively over any support it may find. The flowers and umbels are smaller and less conspicuous than in the other. These plants are most frequently met with growing among the milk hedges (*Euporb. Tirucalli*) and being like it leafless and succulent, are often, by careless observers, supposed to be the flower of that plant. This mistake might be productive of unpleasant consequences, for the asclepiadeous plant being eatable, is sometimes eat by the natives as a sallad, if the Euphorbia was by mistake substituted, it would blister the mouth, and probably cause extensive and obstinate inflammation of the fauces, the juice being very acrid.

EXPLANATION OF PLATES.

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1283. SECAMONE EMETICA (R. Br.), twining glabrous: leaves lanceolate or elliptico-lanceolate tapering downwards to the petiol: cymes shorter than the leaves, five or many flowered: corolla glabrous: leaflets of the staminal crown cultriform, half the length of the gynostegium: stigma apiculate: follicles slender, attenuated at the apex.

Subalpine jungles, not unfrequent, twining extensively over low trees and bushes.

1284. BRACHYLEPIS NERVOSA (W. and A.), young shoots and under surface of new leaves clothed with soft pubescence: cymes very hairy, furnished with numerous minute bractiols.

Common on the Neilgherries about Coonoor and Kotergherry and generally about that elevation, (6,000 feet.) Flowers small, purple, surrounded with much whitish hair. Leaves very dark green and shining above, below reticulated with strong dark coloured veins, at first pubescent, afterwards glabrous.

1285. DECALEPIS HAMILTONII. (W. and A.)

Balaghaut mountains near Madras.

A very ramous, twining, glabrous shrub: ramuli terete, slightly sulcated, thickened at the joints: leaves obovate cuneate, retusely acuminate, coriaceous, finely veined beneath. Cymes racemose: bractiols numerous, minute, ovate, pubescent: flowers small, lobes of the corolla spreading, exterior pubescent, densely hairy within.

1286. BOUCEROSIA LASIANTHA (R. W.), quadrangular erect, very ramous: angles prominent, denticulate: flowers umbelled, longish pedicelled: corolla rotate, four lobed, externally glabrous; densely clothed with shaggy pubescence within; lobes at first ciliate with longish jointed caducous hairs: gynastegium exserted.

Nuggur Hills, Madras.

Nearly allied to B. umbellata, but quite distinct in its very ramous habit and its densely hairy corolla.

1287. BONCEROSIA CAMPANULATA (R. W.), stems simple erect, 4-sided, angles dilated somewhat winglike with gland-like denticulæ: corolla campanulate; tube conical, glabrous on both sides; not marked with transverse bars: gynostegium short, not exserted beyond the tube.

Station unknown.

This seems still more nearly allied to *B. umbellata* than the preceding, but is, I think, quite distinct. The simple stems with broad thin angles, and the want of transverse brown bars, added to the tubular form of the corolla, which is more distinct in the specimen than in the figure, all combine to prove it distinct. I received the specimens without the station being marked.

1288. CHILOCARPUS CEYLANICUS (R. W.), shrubby, cirriferous: leaves petioled, elliptic, tapering to both ends, bluntly acuminate, glabrous, shining above, dull (when dry) rusty coloured beneath, parallely veined: corymbs axillary, cymose: calyx lobes broad, ovate, obtuse, ciliate: corolla deeply 5-cleft: stamens inserted on a thickened ring near the bottom of the tube, included: filaments incurved: anthers ovate pointed: ovary obtuse: stigma oblong acute: fruit ——.

Ceylon. I gathered the specimens here represented in March, 1835, but without fruit. Since the figure was printed I have received others from Mr. Gardner, but still without fruit, hence it is still doubtful whether this is a true Chilocarpus, or a species of Willoughbia.

1289. CARISSA CONGESTA (R. W.), fruticose, erect, ramous: branches dichotomous, armed with long tapering simple spines: leaves petioled, broad ovate or suborbicular, obtuse, glabrous, very smooth, membranous, the veins scarcely visible in the dried specimen: peduncles short, terminal, about 3-flowered, several congested on the points of the branches slightly pubescent: calyx lobes ovate, acute, ciliate, much shorter than the corolla: corolla hairy within the tube, throat glabrous: filaments hairy, anthers apiculate: stigma capitate, hairy.

Coorg. Jerdon, Aboo. Stocks.

This seems a very distinct species, intermediate between *C. carandas* and *paucinervia*, but certainly distinct from both. I am only acquainted with it through Herbarium specimens, communicated by Messrs. Jerdon and Stocks.

1290. CARISSA PAUCINERVIA (Alph. D. C.), branches subdichotomous, armed: leaves elliptic, oblong, acute at both ends, mucronate, glabrous, short petioled, few veined oblique: peduncles terminal and axillary, much shorter than the leaves, 3-5 flowered; pedicels longer than the calyx puberulous: calyx 5-cleft, slightly pilose, laminæ lanceolate, acuminate.

Neilgherries, abundant near Kaitie falls, flowering during the hot season, April and May, but I believe generally to be met with in flower. A low somewhat diffuse very ramous thorny bush: leaves elliptic oblong, mucronate, smooth and shining, light pea green, from $\frac{1}{2}$ to $1\frac{1}{2}$ inch long, and about half as broad—flowers white with a slight dash of rose, berries about the size of a small bean, oval, dark purple.

1291. OPHIOXYLON CEYLANICUM (R. W.), shrubby, erect, glabrous: leaves opposite or verticelled, 3-4 together, elliptico-lanceolate, acuminate, at both ends, acute, dark green above, glaucous beneath, pinniveined: corymbs longish peduncled cymose, axillary, solitary or two or three together from the upper axils: flowers pedicelled: lobes of the calyx narrow lanceolate or somewhat subulate: corolla hypocrateriform, lobes of the limb broad obovate obtuse, about the length of the tube; tube hairy in the throat: ovary 2-celled, 2-parted united at the apex, two ovules in each cell: berries connate at the base,

ovoid, about three lines long, nuts smooth.—Flowers white.

Ceylon. I gathered the specimens here represented in March, 1836, I think at Neuera Ellia. This species seems very nearly allied to the following, but appears quite distinct.

1292. Ophioxylon Neilgherrense (R. W.), shrubby, erect, glabrous, rather sparingly ramous; the leaves confined to the terminal ramuli, older branches naked: leaves oblong, elliptic, broader towards the apex, acute at both ends, shortly acuminate, glaucous beneath: corymbs axillary, cymose, trichotomous, solitary or two or three together: corolla hypocrateriform, tube about twice the length of the limb, hairy within; lobes of the limb oval, obtuse: ovary 2-celled, cells cohering, 2-ovuled: berries connate at the base, 1-seeded, ovoid, dark brownish purple when ripe: seeds oblong, tapering at both ends, bony, smooth.

Neilgherries. Frequent about Coonoor and Kotergherry, and generally over the hills about that line of elevation (6,000 feet), flowering in greatest perfection during the rainy season, (July to September,) but may be met with at most seasons. Flowers pure white, and usually accompanied by full grown fruit. Fruit about the size of a small bean 2-3 lines long.

My collection still contains two undescribed species, the specimens however are scarcely sufficiently complete for full description. One of these from the Pulney mountains is not in flower, but is distinguished by its large fruit, the nuts of which are nearly half an inch long: the other from Belgaum is not in fruit, but the flowers are very different from the preceding species. These two may be thus designated and defined.

1. *Ophioxylon macrocarpum* (R. W.), shrubby glabrous, leaves broad obovate elliptic, abruptly acuminate acute, corymbs axillary lax: calyx lobes linear subulate: nuts obovate slightly compressed, tubercled: corolla ——.

This species is nearly allied to both the preceding but differs in its large tuberculated nuts—4-5 lines long and 2 broad—which are fully twice the size of those of either of the above.

2. *O. Belgaumense* (R. W.), shrubby, erect, glabrous: leaves elliptic, oblong, obtuse or acuminate: corymbs long, peduncled, compact, many flowered: flowers longish pedicelled: calyx 5-cleft, lobes dilated imbricating: tube of the corolla long, slender, lobes of the limb before expansion involutely imbricated, forming a round capitulum: stamens inserted about the middle of the tube.

My specimen of this, which is a very indifferent one, was communicated by Mr. Law. It is allied to the alpine group, but quite distinct from the three preceding ones, as shown by its compact inflorescence, very numerous capitate alabastra and broad imbricating, somewhat truncated, lobes of the calyx. The fruit I have not seen.

1293. Alyxia Ceylanica (R. W.), shrubby, glabrous, dichotomously branched: leaves opposite, obovato-elliptic, acuminate acute, tapering into a short petiol: flowers axillary, solitary, longish, pedicelled: drupes two, compressed, each from two to four-seeded.—The dissected seed is inverted in the figure.

Ceylon. Colonel Walker. This I believe is the only species hitherto found in Ceylon, and am not aware of any species of the genus having yet been found in the Continent of India. Dr. Wallich, however, found one at Amherst.

1294. Hunteria Roxburghiana (R. W.), shrubby, branches slender, glabrous: leaves long, petioled, narrow elliptico-lanceolate, slightly involuate on the margin, finely veined, shining above, dull below, (becoming rusty coloured in drying): corymbs axillary, much shorter than the leaves, many flowered, bracts ovate acute: lobes of the calyx ovate acute: tube of the corolla about three times the length of the calyx, hairy within at the insertion of the stamens, lobes ovate obtuse: berries ovoid, tapering at both ends, two-seeded.

Courtallum, flowering August and September. The venation in the figure, though correct as to outline, is too conspicuous; in the specimen it is much less distinctly seen. I am uncertain whether this may not be *H. lanceolaria*, Wallich, a Mergui plant, but I think not, as I have another species from that country which in some respects agrees better with the character though not so well in others.

Ellertonia. (R. W.)

Calyx 5-cleft, lobes ovate acute without glands. Corolla hypocrateriform, 5-lobed, sinistrorsely convolute, tube ventricose near the middle. Stamens five included, filaments short, anthers lanceolate, cohering round the stigma, cordate at the base, longer than the filaments. Nectary 0. Ovaries 2 distinct, united at the apex by the style, oblong, furrowed, 2-cleft at the apex. Style filiform. Stigma conical pronged into a 2-cleft apiculus. Follicles terete divaricated: with two rows of seed. Seed compressed, peltate, winged at each end. Radicle superior. Scandent shrubs with opposite or 3-4 verticelled leaves: leaves elliptic, acuminate, coriaceous, glabrous, corymbs axillary or several from the ends of the branches, longish peduncled, cymose, many flowered: bracts minute, ovate acute: flowers short pedicelled.

The essential distinctive character of this genus is the winged seed, in other respects it is closely allied to *Alstonia* and *Blaberopus.*

I have dedicated the genus to J. Ellerton Stocks, Esq., of the Bombay Medical Establishment, a very promising young Botanist, to whom this work is indebted for some very interesting communications. I have adopted the sub-cognomen, Ellerton, lest Stocksia might be confounded with the existing genus Stokesia.

1295. Ellertonia Rheedii (R. W.),—Rheede Hort. Mal. 9 tab. 14.

Malabar. The specimens from which the drawing was made were collected at Quilon.

Rheede's figure has been variously quoted as Echites—Aganosma—Alstonia, but for want of specimens to re-examine and properly describe its structure, the plant has hitherto been virtually unknown, the figure being our only guide to a knowledge of its existence, and, so far as the corolla is concerned, the delineator does not seem to have been very attentive in representing all he saw or might have seen.

1296. Wrightia Wallichii (Alph. D. C.), leaves elliptic-obovate, acute at the base, obtusely acuminate, pubescenti-tomentose: cymes tomentose:

lobes of the calyx broad ovate, rounded, externally pubescent half the length of the glabrous tube of the corolla, the ovately rounded scales about half the length of the lobes: coronal appendages 10, ligulate, glabrous, unequal, the larger ones opposite the lobes 3 crenate at the apex, about 4 times shorter than the lobes, the alternating ones a little shorter and narrower, 2-cleft: anthers hairy on the back.—Branches terete retuse towards the extremity: leaves 3-4 inches long, 15-18 lines broad, smoothish above, purpurescent tomentose beneath, petiols 2-3 lines long: lobes of the corolla velvety: follicles about half a foot long, connate, cylindrical, rough with white spots, pointed.

Slopes of the Neilgherries—flowers white. Plants of this occur by the road side from about the middle of the ascent to the elevation of between 4,000 and 5,000 feet. The upper surface of the leaves, which in the figure is represented glabrous, is clothed with very short pubescence, giving them a velvety feel.

The original specimens of this species were collected in the Tenasserim provinces, but the Neilgherry ones do not seem to differ, at least not specifically.

1297. Holarrhena Codaga (G. Don, Dicy.), leaves ovate elliptic, short petioled, obtuse at the base, acute or acuminate at the apex, pubescent: cymes many flowered: lobes of the corolla oblong about the length of the tube: cells of the ovary separate: follicles 8-12 inches long, glabrous, tapering near the extremity.

Malabar, frequent, flowering in great profusion during March and April.

Alph. DeCandolle asks, Is this distinct from *H. pubescens?* I suspect not; it is a variable plant especially in regard to the amount of pubescence, being sometimes quite glabrous. At other, as in the specimen figured, decidedly pubescent. Perhaps under these circumstances I erred in adopting Don's name which is more recent than Wallich's, but I felt sure that this is Rheede's plant, and therefore gave his name the preference.

1298. Holarrhena Malaccensis (R. W.), glabrous, very ramous: leaves petioled, oblong ovate, very obtuse or subcordate at the base, subacuminate, acute at the apex: cymes loose on the ends of short lateral ramuli, peduncles and pedicels glabrous: corolla pubescent, tube three or four times the length of the calyx, longer than the ovate, obtuse, oblique lobes, cells of the ovary cohering.

Malacca. Captain Wight.

This species is I fear too nearly allied to the former. Since the plate was printed, I have received additional specimens of the Malabar plant, which very closely resemble this, so that the principal distinction between them rests in the ovary: in that the cells are free to the apex, in this they are united throughout, the follicles of this I have not seen, but if they too are united, this may be considered a good species.

1299. Strophanthus longicaudatus (R. W.), glabrous: leaves elliptic-oblong, acute at both ends: cymes terminal, dichotomous, few flowered: bracts caducous, calyx lobes broad-ovate below, ending in a subulate point: corolla funnel-shaped, caudæ very long (4-5 inches), appendices deeply 2-lobed, lobes pointed, entire on the inner margin, scarcely exserted beyond the tube, aristæ a little longer than the anthers, anthers hairy on the back.

Malacca, Captain Wight.

This species is allied in habit and general appearance to *S. dichotomus*, but differs in the form of the calyx, the appendices, the proportionately shorter arista of the anthers, and above all in the very long caudæ of the petals.

1300. Strophanthus Griffithii (R. W.), glabrous, leaves coriacious, obovato-subcuneate, obtuse, at the base, abruptly acuminate, acumen sometimes acute, oftener blunt: cymes terminal, dichotomous, calyx lobes ovato-lanceolate: corolla infundibuliform, caudæ very long: appendices broad at base, crenate on the margin, not exserted, aristæ about the length of the anthers: anthers glabrous on the back.

Malacca, Griffith.

This is allied to the former in the great length of the caudæ but is amply distinct in all other respects.

1301. Strophanthus Wightianus (Wall.), shrubby twining glabrous; bark warty: leaves elliptic, acute at both ends, shortly acuminate: lobes of the calyx ovate about one-third the length of the tube of the corolla: corolla glabrous within, appendices exserted, deeply 2-cleft, lobes filiform: aristæ of the stamens filiform longer than the anthers: style somewhat ligulate with a crisp marginal wing: follicles large obtuse, warty all over, seed with a long apiculus.

Travancore, frequent about Quilon in low bushy jungle. I am not acquainted with follicles and seed of any other species, so that I am unable to institute any comparison, but, as here represented, the follicle is not exaggerated, the seed is somewhat magnified. The ovary is somewhat incorrectly represented in so far as it seems to show but a single ovule in each cell, which is far from being the case, an easily corrected defect, but unfortunately overlooked when sending the drawing to the printer.

1302. Strophanthus brevicaudatus (R. W.), shrubby diffuse glabrous: leaves ovate elliptic, abruptly acuminate crisped on the margin: cymes terminal dichotomous: bracts and calyx lobes broad ovate acute: corolla glabrous infundibuliform, throat campanulate, caudæ very short: appendices short, cleft to the base, lobes filiform included: aristæ shorter than the anthers: style villous.

I am uncertain whence I obtained the specimen, as the station by some oversight is not marked, but I believe from Mergui.

1303. Heligme rheedii (R. W.), twining glabrous: leaves ovate acute, short petioled: corymbs trichotomous many flowered: calyx lobes ovate obtuse ciliate, with an ovate scale on each: corolla rotate, ventricose at the base, hairy within: stamens exserted, filaments spirally twisted round the style: anthers sagittate, slightly adhering to the stigma: ovary 2-celled, cells cohering, embraced by 5 ovate hypognous scales: style filiform, stigma capitate, bound with a membrane at the base, apiculate, follicles 2-celled, seed comose at the apex.

Malabar, in low jungles, vide Rheede Hort. Mal. 9 tab. 10.

When naming this plant I overlooked the second section of *Parsonia*, "Filamenta inter se spiraliter, dextrorsum contorta," a structure not indicated in the generic character, otherwise I should probably have

placed this plant in that genus with which it sufficiently accords. Now however that I have become acquainted with it, I still leave this plant in Blume's genus, under the impression that a peculiarity so marked, and at the same time of such rare occurrence, will lead to the removal of that section from *Parsonia* to be united to *Heligme.* If Parsonia is retained as it now stands, this species must unavoidably be transferred to it and the genus Heligme be reduced as it is clearly not distinct.

This is certainly the plant figured by Rheede, Hort. Mal. Vol. 9 tabs. 9 and 10. Hamilton considers these different species, and in his MSS. designates the one tab. 9, *Caudicia gyrandra*, the other *Caudicia trichotoma*, the former name sufficiently expressive of the spirally contorted filaments. It is in allusion to these figures that I have dedicated the species to the original discoverer.

1304. Aganosma elegans (G. Don.), leaves obovato-elliptic acute, cuspidate, subacute at the base, glabrous: cymes shorter than the leaves; flowers crowded: bracts lanceolate acuminate, the length of the pedicel: pedicels and flowers externally whitish-pilose: lobes of the calyx as long as the pedicels, long-lanceolate, about the length of the tube of the corolla.—Branches glabrous: leaves 2-2½ inches long, 10-12 lines broad, glabrous, reticulated with numerous coloured nerves and nervulæ: lobes of the calyx 3 lines long [in my specimens they are nearly ½ an inch or 6 lines] ¾ of a line broad: tube of the corollay externally pilose, hispid within, lobes ovate acute, about the length of the tube, glabrous within: ovary shorter than the nectarial scales, pilose above.

Not uncommon in subalpine jungles; Courtallum, foot of the Neilgherries, Malabar, &c. An erect ramous shrub 6–10 feet high: flowers pale yellow. It seems rarely to produce fruit as, though I have now specimens from various localities, none are in fruit. The venous reticulations of the leaves forms one of the best specific characters.

1305. Aganosma Blumii (Alph. D. C.), leaves oval, acutish at both ends, beneath and the ramuli pubescent: corymbs terminal, spreading, lobes of the calyx as long as the tube of the corolla.

Balaghaut mountains, near Madras. I am not quite certain of the identity of this and Rheede's plant, but I feel quite certain that it is distinct from the preceding, though the character and figure do not show that so clearly as the specimens, the difference between which is obvious at first sight.

1306. Aganosma Doniana (R. W.), every where glabrous except the inflorescence: leaves elliptic, cuspidately acuminate: corymbs terminal, compact, pilose: lobes of the calyx linear lanceolate pilose, longer than the externally pilose tube of the corolla: lobes of the corolla shorter than the tube, nectarial scales all united, about the length of the very hairy ovary: follicles terete, tomentose, divaricated.

This species is nearly allied to *A. elegans*, but is certainly distinct and readily distinguished by its much smaller flowers and united nectarial scales.

1306-*bis.* Pottsia Hookeriana (R. W.), glabrous, leaves subcordate ovate cuspidately acuminate: panicles cymose terminal or from the axils of the upper leaves, lax, many flowered, smooth and glabrous: bracts small subulate: calyx 5-cleft, much shorter than the tube of the corolla, slightly ciliate, numerous minute glands within near the base: nectarial glands not cohering.

Mergui, Griffith.

This species, though very nearly allied, seems distinct from *P. ovata.* The most marked peculiarity consists in its numerous calycine glands; here they form a continuous row all round the cup of the calyx, there only one or two to each lobe; here the extremities of the ramuli are glabrous, there pulverulento-velutinous. A comparison of the two plants will perhaps elicit other points of distinction.

1307. Ecdysanthera Griffithii (R. W., *E. glandulifera*, R. W. Ic. 1307.), leaves obovato-lanceolate acute, tapering towards the base, short petioled, glabrous (when dry yellowish beneath), calyx lobes ovate acute and, with the peduncles, pedicels, bracts, and corolla, pilose: calycine glands numerous: corolla sinistrorsely convolute: nectary cupuliform entire, crenate: ovary pilose, follicles long slender monilliform.

Malacca, Griffith.

When naming the drawing, which I did before writing the description, I committed the egregious blunder of overlooking the direction of the æstivation, and apart from that, finding the plant agree in so many particulars with the character and description of *E. glandulifera*, considered it that species, and named it accordingly; an error which I beg may be corrected. So perfect is the agreement between the two plants that excepting the æstivation, nectary, and form of the seed, which are scarcely obovate, DeCandolle's description might almost be copied for this species. The points of distinction, however, are of sufficient importance to establish this as a distinct and well marked species.

EPIGYNUM. (R. W.)

Calyx tubular 5-cleft, lobes eglandulose. Corolla epigynous hypocraterimorphous, 5-lobed; æstivation dextrorsely cortorted. Stamens 5, inserted near the base of the tube; anthers sagittate, adhering to the stigma. Nectary an epigynous fleshy disc, embracing the base of the style, and covering the apex of the ovary. Ovary adherent! to the tube of the calyx, 2-celled with numerous ovules. Style filiform. Stigma pyramidal acute, slightly 5-winged, furnished at the base with a short reflexed membrane. Fruit? A diffuse glabrous climbing shrub, with opposite entire ovate-elliptic short petioled leaves. Corymbs axillary, shorter than the leaves: flowers numerous, crowded, and with the peduncles and pedicels clothed with appressed hairs. Calyx 5-cleft, lobes ovate acute. Corolla three or four times the length of the calyx, hairy on both sides, obtuse before expansion, lobes much contorted in æstivation.

This genus seems allied to Ecdysantheræ § 3, in the form of its corolla, but the position of the ovary almost excludes it from the order. Mr. Brown long ago adverted to the affinity existing between Apocyneæ and Rubiacæ; this genus may be looked upon as in some measure forming the connecting link between them, having the habit and flower of the one and the inferior ovary of the other. It adds one more to the examples already existing, showing the necessity of not attaching too much importance to the circumstance of an ovary being free or adherent.

1308. Epigynum Griffithianum. (R. W.)
Mergui, Griffith.

Glabrous: leaves elliptic sub-obtuse, corymbs axillary pubescent: flowers apparently white or pale yellow, corolla before dehiscence ventricose at the base and apex.

1309. Anodendeon Candollianum (R. W.), glabrous, branches terete, leaves oblong ovate rounded at both ends, cuspidately acuminate at the apex, long petioled: panicles axillary, branches cymose: flowers small, calyx lobes lanceolate, all eglandulose.

Malacca. Captain Wight.

This species seems very nearly allied to *A. paniculata*, but is, I think, distinct. The flowers are much smaller, the tube of the corolla, as compared with the lobes, longer, and the free apex of the filament seems peculiar to this species. The follicle and dissections of the seed, given in the plate, are taken from *A. paniculatum*, the specimens of this species not being in fruit.

Cleghornia.

Calyx 5-lobed with 5 didymus glands alternate with the lobes. Corolla hypocrateriform, 5-cleft exappendiculate sinistrorsely convolute in æstivation. Anthers subsessile attached near the base of the corolla, sagittate at the base, cuspidate at the apex, pilose on the back; adhering to the stigma. Nectary of 5 glands, cleft at the apex. Ovaries 2, glabrous, ovules numerous. Style short. Stigma large, obtusely apiculate, constricted in the middle, not membranous at the base. Follicles long, somewhat ventricose above, tapering to a point. Seed comose at the apex, oblong, pointed at both ends. Albumen sparing, embryo axile, cotyledons foliaceous, radical superior. Diffuse, glabrous shrubs with opposite, membranous, petioled, acuminate, penninerved leaves; axillary panicled corymbs; minute bracts; and small white flowers, slightly hairy in the throat.

In its technical characters this genus seems to approach too near Echites, but the species are very different from the American ones I have seen. Influenced by this consideration, as well as by the remark of M. Alph. DeCandolle, that all the species of Echites, except doubtful ones, are from America, I have thought it the safer course to keep them distinct from that already overgrown genus, leaving it for those better acquainted with the older genus to decide whether in so doing I have acted judiciously; the figures, which are correct, supplying the means of comparing the two.

The genus is dedicated to Dr. Hugh Cleghorn of the Madras Medical Establishment, a zealous cultivator of Botany, but more especially directing his attention to Medical Botany.

1310. Cleghornia acumenata (R. W.), ramuli slender, glabrous: leaves from ovate obtuse, or subcordate at the base to elliptic, shortly and abruptly acuminate: corymbs axillary cymose, shorter than the leaves: lobes of the calyx and corolla ciliate: anthers subulate, pointed, nectarial glands distinctly 2 lobed at the apex: follicles long, fusiform, acute.

Ceylon, 1836.

The reticulations, shown on the under surface of the leaves in this figure, represent the meshes too small, the tertiary veins not being so numerous and the quaternary series being scarcely visible to the naked eye. The subsequent addition of the following species has rendered the specific name less appropriate than when first imposed.

1312. Cleghornia cymosa (R. W.), diffuse, glabrous, elliptic, obtuse at both ends, terminating in a short, abrupt, blunt acumen: cymes lateral, long peduncled, trichotomous: calyx and corolla glabrous, anthers cuspidate, nectarial glands slightly cleft at the apex.

Ceylon, 1836.

This species is certainly nearly allied to the preceding, but appears distinct, the difference of the inflorescence is very marked. I collected the specimens of both these species in the course of a short visit to Ceylon in 1836. I have specimens of what appears to be a third species from Mergui, but the flowers are too young for satisfactory determination.

1313. Gardnera Wallichii (R. W. in Wall. pl. as. rar. 3 tab. 281), glabrous voluble: leaves oval acuminate at both ends, acute: cymes axillary, peduncled, much shorter than the leaves: flowers tetrandrous: berry globose.

Frequent on the Neilgherries, flowering March and April.

It is an extensive climber ascending to the tops of the highest trees and then covering them with its numerous branches and very dark green foliage. Flowers of a dull yellowish colour.

1314—15. Beaumontia Jerdoniana (R. W.), leaves obovate, abruptly acuminate, obtuse at the base, coriaceous, glabrous: cymes terminal many flowered: calyx 5-cleft, with two subulate glands at the bottom of each division; lobes narrow lanceolate, acute, pubescent on both sides: corolla large, infundibuliform, with a short narrow tube.

Coorg Jungles. T. C. Jerdon, Esq., Captain F. Cotton, Engineers.

I am indebted to these gentlemen for the specimens from which the accompanying figure was taken; they were gathered in June. Judging from them, only, this seems indeed to be a magnificent plant quite distinct from the Bengal one, *B. grandiflora*, the flowers of which are even smaller than those of this, at least as exhibited in Dr. Wallich's figure in his Tentamen Nepalense.

An extensively climbing shrub. Leaves obovate, 8—10 inches long, broadest above the middle and abruptly terminating in a short narrow acumen, perfectly glabrous on both sides, firm and coriaceous. Cymes terminal, many of the flowers, in the dried specimens (which only I know), ebractiolate, but probably the bracts are deciduous and have separated in drying. Calyx deeply 5-cleft with ten linear subulate glands at the base, alternate with the lobes; lobes narrow, lanceolate, acute, pubescent on both sides, from 12 to 15 lines long. Corolla large, apparently about 4 inches long, wide above, gradually tapering towards the base where it ends in a short narrow tube. Stamens shorter than the corolla. Filaments slender. Anthers cohering round the stigma, sagittate, with curved spurs at the base. Nectarial glands broad ovate, obtuse, about the length of the blunt hairy ovary. Follicle cylindrical, somewhat tapering at the apex, 9-10 inches long and about 3 in circumference. Seeds ovate, compressed, pilose, comose at the apex Embryo

about the length of the seed: cotyledons oblong, foliaceous: radical superior.

The two species may be briefly distinguished thus:

B. grandiflora, calyx lobes broad ovate, foliaceous; corolla campanulate.

B. Jerdoniana, calyx lobes narrow, lanceolate; corolla infundibuliform.

1316. Fagræa Coromandelina (R. W.), arborious, glabrous: leaves succulent, spathulato-oblong, slightly retuse at the apex, short petioled: stipules intra-foliaceous, closely embracing the stem: peduncles terminal, ternate, 3-flowered: corolla subcampanulate, lobes revolute, obtuse: stigma peltate: berry elliptic, tapering at both ends, pointed with the persistent base of the style, fleshy: seeds small, subglobose, rough: embryo shorter than the fleshy albumen: radical superior.

Courtallum and Coonoor, Neilgherries, flowering during rainy season. A small rather ungainly stunted looking tree, bearing all its leaves on the ends of the young ramuli. Leaves fleshy, 4-6 inches long and 2-3 broad near the apex, peduncles usually 3 from the end of the branch each with 3 large white flowers. Corolla nearly 3 inches long, something between campanulate and wide infundibuliform. Stamens and style exserted. Berry elliptical, about 1½ inch long, filled with fleshy pulp in which the numerous minute seeds nidulate. Seeds small nearly globose, testa rough, ablumen copious, embryo axillary, terete, radical superior.

1317. Fagræa Malabarica (R. W.), leaves obovate cuneate, subapiculate, longish petioled: peduncles axillary and terminal, about 5 together, elongated, 3-flowered: corolla infundibuliform; tube slender at the base, about twice the length of the calyx; limb dilated, lobes spreading: stamens and style about the length of the corolla: stigma peltate: ovary 2-celled.

Malabar—Rheede, Hort. Mal. 4 tab. 58.

These two are nearly allied species, but I think quite distinct from all those yet discovered. The last seems in some respects to approach *F. Zeylanica*, but, so far as I can determine from Lamarck's figure, is quite distinct. The larger leaves are about 10 inches long tapering gradually into the petiol. The number and length of the peduncles, and slender form of the flowers, at once distinguish this from *F. Coromandelina*, which is altogether a different looking plant.

1318. Gærtnera Konegii (R. W. *Sykesia Konegii* Arn.), leaves obovate, oblong or oval, shortly acuminate, attenuate at the base: panicles compound, trichotomous, pedunculate, minutely puberulous, shorter than the leaves: tube of the corolla about twice the length of the calyx: anthers exserted, filaments conspicuous.

Ceylon.

I collected specimens of this and of what appears two other species of the genus in 1836. The others are not in a good state and still remain undetermined. Some years ago Dr. Arnott published this plant under the generic designation of *Sykesia*. Since then Endlicher referred it to *Gærtnera*. DeCandolle, however, retained the genus, but his son took a different view of the matter and could not see why his father had kept it up. Under these circumstances I was induced to re-examine the characters of the two, and compare those of this plant with both. The result led to the belief that they are not sufficiently distinct; on which account I have adopted the older generic name.

1319. Wrightia Rothii (G. Don.), leaves oval lanceolate acuminate, and, with the cymes, pubescent on both sides: lobes of the calyx oblong obtuse, pubescent, shorter than the tube of the corolla: scales lanceolato-subulate, pubescent: scales of the crown linear cleft, scarcely pubescent, about the length of the anthers: anthers pubescent on the points.—Ramuli pubescent, brownish, the pubescence on the new leaves purplish, on the older ones greyish. Corymbs lax, dichotomous: pedicels about an inch long: corolla everywhere pubescent, lobes oblong obtuse, nearly half an inch long. D. C.

Nuggur Hills, near Madras.

In the magnified figure of the expanded flower the lobes of the calyx are represented too small in proportion to the tube of the corolla and the anthers probably a little too conspicuous.

The interior surface of the anther is, as in *W. tinctoria*, hairy, which would have led me to doubt this being the plant named had M. Alph. DeCandolle stated, as the result of his own examination, "antheris apice solum pubescentibus," but as it is copied from Roth, who describes the exterior surface only, I do not think the circumstance militates against this being indeed the true plant.

1320. Hemidesmus pubescens (W. and A.), ramuli slender, twining, hirsuto-pubescent, leaves ovate roundish ovate or oval, cuspidate, paler beneath, pubescenti-velutinous: cymes usually subsessile, few-flowered: scales of the corolla attached to the tube: flowers dark purple.

The station whence the specimen figured was obtained is not noted, but I found the plant in jungles near Vendaloor, (Smith's Choultry), between Palaverum and Chingleput, and M. Perrottet found it at Kuhutti on the Neilgherries. The whole plant is clothed with short soft pubescence, but I have only ventured to have it shown on a single leaf and part of the stem, being fearful of my Madras lithographer.

1321. Exacum bicolor (Roxb.), stem 4-angled: leaves sessile, ovate, subacute, 5-nerved with smooth margins: calyx deeply 4-cleft, segments subulate with ovato-lanceolate wings: corolla white, tipped with blue; lobes elliptic oblong cuspidate, three times longer than the tube, which is a little shorter than the calyx.—Corolla large, nearly two inches in diameter, cymes terminal subcontracted: middle internodes usually shorter than the leaves. Griseb. in D. C. Prod.

Neilgherries, below Kotergherry, rare, in pastures about a mile below Nedawuttim abundant, flowering during the autumnal months.

1322. Exacum Perrottetii (Griseb.), stem straight, 4-angled, simplish: leaves sessile, oblong lanceolate acuminate, 5-nerved with smooth margins: calyx deeply 4-cleft, segments subulate with semi-lanceolate wings: corolla rose coloured or blue, lobes obovato-elliptic cuspidate, 4 times longer than the tube. Griseb. l. c.

Neilgherries, Coonoor, Kaitie Falls, &c., frequent. Stem erect, about two feet high, simple below the cymes and cymules from the upper axils: internodes shorter than the leaves: pedicels about an inch long with a small bract, corolla about $1\frac{1}{2}$ inch in diameter: anthers like those of E. Zelanicum: capsule erect, ovoid-globose.

1323. Exacum Courtallense (Arnott), stem dichotomously branched, branches with 4 very narrow wings: leaves oblong, lanceolate, acuminate: inflorescence leafy: laminæ of the corolla obovate obtuse, stamens 5: fructiferous pedicels straight: capsule oblong ovate, narrowing towards the apex.

Courtallum. A beautiful species with somewhat succulent leaves and deep blue flowers. Older plants show a tendency to become diffuse, the branches resting on the ground with the floriferous extremities ascending.

1324. Fig. 1. Exacum sessile (Lin.), stem simple, roundish: leaves short cordate obtuse sessile, obsoletely 5-nerved: calyx 4-parted exalate, segments obtuse very short reflexed: lobes of the corolla obovate obtuse: flowers subsessile.

Ceylon. Colonel Walker.

Fig. 2. Exacum petiolare (Griseb.), stem simple 4-sided: leaves long petioled, broad ovate, obtuse, 5-nerved: calyx 4-parted, segments acute with truncated, semi-ovate, transversely-veined wings at the base: lobes of the corolla elliptic acute: flowers pedicelled.—Petiols dilated into the limb about half an inch long, leaves about $1\frac{1}{2}$ inch long, $1\frac{1}{4}$ broad, triangular ovate from the base, a little shorter than the internodes.

Belgaum. Law.

Fig. 3. Exacum pumilum (Griseb.), stem 4-sided: leaves sessile, oblong lanceolate bluntish, 3-nerved, the last shorter one nerved: calyx 4-parted, segments, subulate, wingless: corolla small, purplish, lobes roundish ovate obtuse: style elongated.—Stem about a span high simple at the base: upper leaves oblong linear, often only 2 lines long, the middle ones about an inch and 4 or 5 lines broad: pedicels terminal, from half an inch to $1\frac{1}{2}$ long, forming a terminal cyme, bibractiolate above the middle [these I do not find in my specimens]: lobes of the corolla three times longer than the tube, which is about the length of the calyx: anthers oblong straight, opening by a minute double pore, afterwards spliting longitudinally.

Bombay or Belgaum, I am uncertain which. For the specimen figured, which is larger than that described by Grisebach, I am indebted to Mr. Law of Bombay, so often mentioned in this work.

1325. Erythræa Roxburghii (G. Don), stem straight, diffusely ramous: lower leaves rosulate, obovate oblong obtuse, cauline ones linear acuminate: cymes once or twice dichotomous, patulous: lateral flowers ebractiate: tube of the corolla, about the time of expansion, somewhat exceeding the calyx, lobes narrow, oblong acute.

Frequent on the table land of Mysore. I do not recollect meeting with it on the lower plains. Flowers, so far as I have seen, always white and the stigma bi-lamellate. I am particular in mentioning the colour of the flower and form of the stigma, as Grisebach places this in his 2d section, part of the character of which is "Corolla rosea * * stigmate capitulato," whereas it more properly belongs to his 1st: "Corolla rosea rarius alba. * * Stigmatis bifidi lamellis planis."

1326. Canscora (cyclophyllum) grandiflora (R. W.), stems above furnished with 4 narrow wings, diffusely ramous: leaves lanceolate acute, 3-nerved, floral ones orbiculate, perfoliate: flowers ternate subsessile, calyx broadly winged.

Coorg and Western provinces of Mysore. Jerdon. Flowering May and June.

A large and handsome species apparently extensively diffuse or seeking support from neighbouring bushes. Allied to C. perfoliata in the form of its bracts, but at once distinguished by the broad wings of the calyx.

1327. Fig. 1. Canscora Lawii (R. W.), diffuse, very ramous, wingless: leaves suborbicular cuspidate, bracts subulate, minute: flowers all pedicellate: calyx wingless the subulate teeth scarcely half the length of the limb of corolla: style filiform exserted, exceeding the exserted fertile stamen: stigma bilamellate: corolla rose coloured.

Belgaum. Law.

Nearly allied to C. diffusa, but differs in the form of its leaves, its much larger flowers and the greater length of the fertile stamen, which is here exserted while in diffusa it scarcely exceeds the others. The leaves of diffusa are ovate lanceolate, and the limb of the corolla is scarcely longer than the teeth of the calyx, stamens all nearly equal and as long as the style.

Fig. 2. Canscora perfoliata (Linn.), stem 4-winged, ramous from the base: leaves oblong lanceolate acute, floral ones roundish: central flowers short pedicelled: calyx wingless.

My specimens of this are from Mysore and Malabar.

Fig. 3. Canscora tenella (R. W.), stems obsoletely winged, diffuse, and very ramous: lower leaves broad ovate acute, those of the floriferous ramuli linear lanceolate or minute, subulate: flowers long and slenderly pedicelled: calyx wingless: dentate; teeth acute, about one-third the length of the lobes of the corolla: style scarcely the length of the tube, stigma incluse.

Malabar and Mysore.

This in technical characters very nearly approaches C. diffusa, but is most distinct in appearance, which, however, the figure does not so well preserve owing to the draftsman having made the upper leaves much too large; even the lower ones of the branch selected are too large, being taken form the lower part of the stem. The pedicels, too, of the figure, are about twice the thickness of those of the plant, a defect for which the transferer is accountable. While the leaves of the plant are less than half the size of those of C. diffusa, the flowers are fully twice as large, the lobes of the corolla much more obtuse.

1328. Gentiana pedicellata (Wall.), stem loosely ramous, glabrous: leaves elliptico-lanceolate, the broader ones aristate at the apex, smooth on the margins, the lowest ones rosulate: flowers pedicelled: calyx campanulate 5-cleft, lobes ovate cuspidate, recurved at the apex, shorter than the clavate

tube of the corolla: corolla blue, the tube furnished with 5 projecting, triangular, acutely mucronate lobes: plicæ emarginate: capsule obovate, rounded at the apex.

Neilgherries, frequent in pastures flowering at at all seasons. The bright blue flowers render this a conspicuous plant even though the foliage can scarcely be distinguished from the surrounding herbage. It seems to have a wide geographical range, extending on alpine ranges from the Himalayas to Ceylon. I have now gathered it on the Neilgherries, Pulney mountains and Neuera Ellia in Ceylon. I think it is also found on the higher hills in Coorg and Mysore.

1329. Ophelia corymbosa (Griseb.), stem 4-sided, ascending, branches divaricate: leaves spathulato-elliptic, roughish, 3-nerved; the lower ones largest, the stem ones short sessile: cymes subfastigiate few-flowered, pedicels spreading, segments of the calyx linear acuminate, half the length of the corolla: corolla 4-parted, blue, segments obovato-elliptic mucronate: foveæ minute, orbicular, solitary, covered with a scale, fimbriate at the apex, and themselves bound with short fimbriæ: filaments linear.

Neilgherries, not unfrequent during the rainy season in pastures and about the outskirts of woods. The upper branches of this are not fastigiate, but often nearly horizontal, the flowers only looking to the sky, in which respect it differs considerably from the following, which Grisebach has joined with it.

1330. Ophelia Grisebachiana (R. W.), erect, simple below, ramous above, fastigiate: leaves opposite or ternate, lanceolate, acute, or sometimes narrow linear, 3-nerved: corymbs many-flowered, compact: calyx lobes subulate-pointed, nearly as long as the corolla: corolla 4-cleft, divisions lanceolate acute, foveæ covered with a scale and bound with long fimbriæ round the margin.

Pulney mountains, among long grass, flowering September and October.

This species seems to me to go far towards showing that Grisebach's variety *β. elatior* of his O. corymbosa is a distinct species, that is, if I have not erred in considering the plant figured No. 1329 his *O. corymbosa.*

1331. Ophelia elegans (R. W.), erect, ramous above, obsoletely 4-sided: leaves sessile, narrow ovate lanceolate, tapering to a slender point, 3-nerved; lateral nerves close to the margin: branches ascending, slender, bearing at each joint lateral, few-flowered cymes, forming together a large many-flowered leafy panicle: calyx lobes narrow lanceolate acute, about ⅘ the length of the corolla: lobes of the corolla obovate cuspidate: foveæ bound with longish coarse hairs: flowers pale blue.

Pulneys, flowering August and September. A very handsome species when in full flower, forming, as it does, a rich panicle of light blue flowers, streaked with deeper coloured veins. It seems very distinct from all the other species.

1332. Ophelia minor (Griseb.), stems subterete, erect, filiform, glabrous, sparingly ramous: branches erect 1-3 flowered: leaves short cordato-ovate, or ovate, glabrous, obscurely 3-nerved, cauline ones sessile: cymes terminal, lax, 3-5 flowered; the axillary pedicels shorter: segments of the calyx lanceolato-oblong, acute, about half the length of the corolla: corolla 4-parted, blue; segments elliptic-oblong, acute, suberect: foveæ orbicular paired distant, most minute; margins naked: filaments linear, shorter than the corolla.

Neilgherries, in wet marshy grounds.

It seems to me doubtful whether this ought to be admitted into the genus. The total want of style and the all-but absence of foveæ militate against it. They are double, always most minute, often wanting, and when present, unlike those of all the other species, being, so far as I have seen, mere tufts of pubescence, not foveæ, and so small that aid of a magnifier is required to see them. In a genus where the character of the foveæ forms so important an item in the generic character, so wide a departure, as is here presented, from the normal form seems to merit a higher than specific value.

1334. Halenea Perrottetii (Griseb.), stem erect, ramous: leaves ovato-lanceolate acute, 5-nerved, subsessile: pedicels axillary and terminal unequal, filiform: segments of the calyx lanceolate acute: spurs thickish, half the length of the corolla, corniculato-obtuse, spreading and ascending at the point: corolla pale blue; lobes ovate mucronate, stigmas small, distinct at the apex.

Pulney and Neilgherry mountains, common among long grass and about the outskirts of woods in both places.

This plant often attains a considerable size, two or three feet high, and very ramous, becoming altogether a large annual. The specimen figured was selected on account of its small size, as better suiting the space allowed in these plates.

1335—36. Bignonia xylocarpa (Roxb.), arborious, glabrous except the pubescent branches of the panicles and bracts: leaves 2-3 pinnate, petiols angled; leaflets petiolate, ovate or oblong acuminate, entire, membranous, penninerved, reticulately veined: panicles subcorymbose, branches dichotomous: calyx unequally 5-toothed: corolla campanulate, shortly tubular, lobes somewhat undulated, roundish: capsules siliquiform, linear, roundish, incurved, tuberculate.—A handsome tree: flowers white, fragrant: capsule about two feet long from 1—1½ inch broad.

Neilgherries, flowering in April. I have only met with this tree twice—in Orange valley and on the Eastern slopes by the road side about 4 miles below Coonoor.

It is suggested that it may be a species of Tecoma, a point I am unable to decide as I scarcely know in what respects the two genera differ.

1337—38. Calosanthes Indica. (Blume.)
Sandy plains in Malabar.

A glabrous tree with opposite bipinnate leaves; leaflets short petioled, subcordato-ovate acuminate, entire: racemes terminal, erect: flowers large, whitish within, exteriorly streaked with red, fœted: calyx coriaceous, tubular, truncated: tube of the corolla short, throat campanulate; limb 5-lobed sub-bilabiate, somewhat fimbriately cut on the margin: sta-

mens 5, all fertile, scarcely exserted: anthers cells pendulous from the apex of the filaments (this structure is not clearly shown in the plate), stigma bilamellate: capsule siliqueform, very long, compressed, 2-valved; septum paralleled to the valves: seed bound with a circular membranaceous wing.

1339. Spathodea Rheedii (Wall.), arborious glabrous: leaves unequally pinnate, 3-paired; leaflets oval-lanceolate, acuminate, petiolulate, entire: racemes terminal, short, about 3-flowered: corolla with a long slender tube, capsule siliqueform, subcylindrical, erect or more or less curved.—Corolla white, 5-6 inches long, capsule about 8 inches long, septum thickened in the middle, hence the capsule is somewhat 4-celled: wing of the seed thickish, opake, truncated.

Malabar—near Tillicherry, &c.

My figure differs somewhat from Rheede's, but not I think to such an extent as to lead to any doubt of the identity of the species.

1340. Spathodea arcuata (R. W.), arborious, leaves unequally pinnate, 4-5 pairs leaflets from ovate subacute to orbicular, unequal at the base, entire, softly pubescent when young, afterwards glabrous: racemes terminal, elongated, many-flowered: calyx cylindrical oblique, pubescent externally: tube of the corolla slender, limb funnel-shaped, 5-lobed, fimbriated on the margin: capsule arcuate compressed, 8-12 inches long by about 1 broad.

Coimbatore district, flowering during the autumnal rainy months. Calyx about an inch long, corolla between 2 and 3 inches, very deciduous; usually expanding in the evening and dropping off in the morning; rarely producing fruit. The one introduced into the figure was an old one found on the tree, but the seed all gone. I believe it is more frequent in the jungles towards Paulghaut than in Coimbatore. In this district I have only seen two or three trees. From the character of the fruit this species seems to approach *Bignonia*.

1341. Stereospermum chelonoides (D. C.), arborious, glabrous: branches terete: leaves unequally pinnate, 4-paired; leaflets elliptic cuspidato-acuminate: panicles terminal, loose, the extreme ramuli 3-flowered: calyx coriaceous, 2-3 lobed or 5-toothed: corolla campanulato-bilabiate, ciliate: capsule very long roundish, glabrous, with a spongy septum.—Flowers fragrant, yellow: capsules a foot or more in length.

A considerable tree, not unfrequent in the jungles between Coimbatore and Paulghaut, flowering during the rainy spring months.

1342. Stereospermum Suaviolens (D. C.), arborious: leaves unequally pinnate, 2-4 pairs; leaflets oval acuminate intre: panicles terminal, loose, subrachiate: calyx 5-toothed: corolla hairy or woolly, capsule siliqueform, cylindrical; septum corky, cylindrical.—Flowers dull purplish, very fragrant: leaves vary from broad ovate shortly and abruptly acuminate, to oval lanceolate long acuminate, entire or subserrate, pubescent or glabrous: panicles pilosely viscid or glabrous.

A not uncommon tree, but apparently often cultivated for the sake of its fragrant flowers. D. C. seems to think that several species may be confused under this name.

1343—44. Panjanelia Rheedii (R. W.), arborious: leaves unequally pinnate, leaflets unequal sided acuminate: calyx campanulate, 5-lobed, lobes emarginate at the points: corolla campanulate, sub-bilabiate, 5-lobed $\frac{2}{3}$; lobes dilated and crisp on the outer margin, furnished on the edges with a line of dense woolly tomentum; externally tube glabrous, limb pubescent: longer stamens connivent: capsule 12-15 inches long, winged, cuspidate: seed orbicular, compressed, winged.

Malabar, not unfrequent in the jungles between Coimbatore and Paulghaut, flowering during the rainy months, July and August.

A glance at this figure, as compared with Dr. Wallich's figure of *P. multijuga*, must satisfy any one, that they are different species. My figure does not look much liker Rheede's than Wallich's, but the station is the same, and some allowance must be made for the different periods at which they were prepared.

1345. Sesamum laciniatum (Klien.), stem prostrate hispid, all the leaves laciniately three-parted. D. C. prad.

Balaghaut mountains, Carnatic. DeCandolle remarks of this species, which he had never seen, "Valde affine videtur S. indici var α nec forsan satis distinctum." A view in which I cannot coincide, for, to me, it appears most distinct from all the endless forms of that species.

1346. Sesamum prostratum (Retz), leaves orbiculate, crenated, hispid above, niveo-tomentose beneath: flowers solitary peduncled: stem diffuse. Sprengel.

Sand-hills along the Sea coast, frequent in such situations near Madras towards the Adyar.

It is remarkable that the identity of a plant so easily procured, so often sent to Europe, and so really well figured by Plukenet 140 years ago, should still be considered sub-judice. In 1705 Plukenet figured a specimen from Madras. About 70 years after Retz obtained specimens which he named and published, quoting Plukenet's figure. In 1800 Willdmow expelled it from his sp. plant, because it coincided in various particulars with *Torenia asiatica!* In 1821 Roth restored it to the genus, Springel kept it there with an improved character, and finally, in 1845, DeCandolle places it among his "species exclusæ"! as being a misnamed specimen of *Torenia asiatica*. The figure and analysis now given will, I trust, set the question at rest in all time coming. The recent leaves, like those of Pedalium murex, when soaked in water for a few minutes, renders it thick and mucilagenous.

1347. Æschynanthus Ceylanica (Gardner), leaves lanceolate acute at the base, obtusely acuminate at the apex; lateral nerves few oblique: umbels 2-3 flowered, pedicels about the length of the calyx, glabrous: calyx 5-parted glabrous, lobes linear: corolla glanduloso-pubescent, 4 times longer than the calyx; lobes rounded, ciliate, spotted: stamens exserted, filaments puberulous: seeds furnished with a single thread at each end. Gardner, Calcut. Journal.

Courtallum, during the rainy autumnal months. Also in Ceylon, whence Mr. Gardner's specific name.

1348. Didymocarpus Rottleriana (Wall.), stemless, incanous: leaves spathulato-obovate, crenate, densely clothed on both sides with white tomentum: scapes erect, hairy, subcorymbose, drooping at the apex: flowers smallish, corolla subinfundibuliform, 5-lobed: capsule ——.

Shevagherry hills, near Courtallum, flowering August.

This species seems very imperfectly defined by both Brown and DeCandolle and, if I mistake not, includes two of the following species. I am uncertain whether I am correct in appropriating the name to this or the following species, but I apprehend, that of the two, this will be found to consort best with the character though by much the rarer plant. Its rarity indeed makes me doubt whether this is the true species; the other is much more common. Brown in his synopsis of the genus lays considerable stress on the circumstance of the capsule, in the first instance, splitting along one side and the valves long cohering on the other, which he considers of sufficient moment to distinguish the peninsular species from all the others he defines, but I find it common to all the peninsular species I have examined, except the present, the mature capsule of which I have not seen, but observe the same tendency in a half-grown one.

1349. Didymocarpus tomentosa (R. W.), leaves obovato-spathulate doubly crenate, reticulately dull whitish tomentose above, densely ferrugeneo-tomentose or woolly beneath: scapes erect, dichotomously cymose, many flowered, hairy above: calyx 5-cleft, lobes linear obtuse, clothed with glandular hairs: corolla subcampanulate 5-cleft, lobes suborbicular: fertile stamens shorter than the tube: ovary about the length of the calyx: stigma dilated: capsule cylindrical about $1\frac{1}{2}$ inch long, pointed, hairy, splitting along one side only. —Flowers bluish purple.

Alpine situations, forming dense patches in moist clefts of rocks, &c. The specimen figured was gathered at Kaitie falls on the Neilgherries, in February. I have since received many specimens from hills near Coimbatore, and have often met with it in similar situations.

1350. Didymocarpus lyrata (R. W.), stemless: leaves large, lyrate, finely crenate, pubescenti-pilose on both sides, especially on the veins: scapes erect shorter than the leaves, dichotomous; branches racemose, hairy: calyx 5-parted, lobes lanceolate acute, pilose: corolla tubular, curved, somewhat ventricose beneath, equally 5-lobed: capsule terete or slightly compressed, 8—10 lines long, hairy; splitting along one side only.

Courtallum, in moist shady places, flowering August and September.

This appears a very distinct species, the large lyrate pilose leaves and small flowers, at once distinguishes this from all the others of this section of the genus.

1351. Didymocarpus ovalifolia (R. W.), leaves petioled, oval, obtuse at both ends, crenato-serrate, penninerved, slightly pilose on both sides, more densely so on the veins beneath: scapes about the length of the leaves umbellately 3-6 flowered, villous: calyx deciduous, 5-parted, lobes lanceolate pilose: corolla tubular, ventricose beneath, contracted at the throat: stigma scarcely dilated: capsule long slender, pubescent, dehiscing on one side.

Courtallum, flowering August and September. A very beautiful species conspicuous on account of the large size of its flowers. It is nearly allied to *D. Humboldtiana*, Gardner, (Calcutta Journal), but I think quite distinct.

Jerdonia. (R. W.)

Calyx 5-parted, lobes narrow lanceolate. Corolla subinfundibuliform, 4-lobed, the posterior one larger emarginate. Stamens 4, all fertile. Filaments dilated, anterior pair broader, furnished with a broad descending tooth. Anthers 2-celled, and, cohering at the apex, form a disk-like crown over the stigma; cells divaricating. Ovary embraced at the base by a cup-shaped disk, 1-celled, with 4 parietal placentæ, 2 at each side. Ovules attached to a slender filiform podosperm. Style short. Stigma dilated, peltate, concealed under the cohering anthers. Capsule ——.

A small, herbaceous, stemless plant. Leaves petioled, oval obtuse at both ends or slightly cordate at the base; the younger ones pubescent all over, the veins and margins only of the older ones clothed with long redish hairs. Scapes erect, filiform, longer than the leaves: pedicels short, subumbellate, surrounded with subulate pilose bracts. Calyx fringed with moniliform hairs, lobes narrow lanceolate or subulate. Corolla infundibuliform, limb somewhat bilabiate $\frac{1}{4}$. Filaments incurved at the apex, dilated below, the anterior pair pubescent.

I am indebted to Mr. Jerdon for my specimens of this interesting little plant which, as forming the type of a new genus, I have much pleasure in dedicating to the discoverer; an honor well merited by his extensive researches in all branches of organic natural history. Though Botany is the last to which he has given his attention it has already reaped considerable advantage from his energetic application to the study of plants. The affinities of this genus in the order are still somewhat obscure, partly owing to the unusual structure of the ovary, and partly to the want of mature capsules. The stamens, too, are peculiar as regards the filaments and anthers, but especially the latter, which are more in accordance with those of *Bignoniaceæ* than *Cyrtandraceæ*, the order to which I for the present refer it, more on account of habit than structure, as both the anthers and ovary are opposed to that location.

1352. Jerdonia Indica. (R. W.)

Western slopes of the Neilgherries, flowering March and April.

1353. Klugia Notoniana (Alph. D. C.), stem succulent, marked on one side with a dense villous line: leaves semicordate at the base: calyx five-lobed, the upper lobe furnished with a winged crest at the base.

Frequent on the Neilgherries in wet marshy ground, near rills and springs. Flowers deep blue. The following description is abridged from the very full and accurate description of Mr. Gardner,

published in the Calcutta Journal of Natural Science.

Annual, erect, 1 to 2 feet high. Stems succulent, very watery, a row of villi on one side, particularly near the ends of the branches. Leaves alternate, petioled, membranaceous, nearly entire, semicordate or oblique at the base, acuminate; above sprinkled with adpressed hairs, glabrous beneath. Racemes opposite the leaves, floriferous towards the apex, each pedicel with a small subulate bract at its base. Calyx 5-cleft: tube 5-angled, the upper one with a broad wing-like crest near the base. Corolla monopetalous, unequally bilabiate; tube white; upper lip much smaller, dentately truncate: lower one broadly elliptical, obtuse, entire, with two cavities at the base; colour deep blue, with a yellow blotch at the base; about 15 lines long. Stamens 4, anthers all perfect, 2-celled, cohering. Ovary free, 1-celled, with 2 parietal placentæ, each dilating into a broad ovuliferous lamina: ovules very numerous: stigma cup-shaped. Capsule enclosed within the persistent calyx; 1-celled, 2-valved; dehiscence loculicidal. Seeds minute, pendulous, testa reticulate.

1354. Epithema Ceylanica (Gardner), pilosely hispid all over: inferior leaves opposite, or solitary by abortion, petioled, broad ovate cordate, doubly serrato-dentate, the upper ones opposite, sessile: peduncles terminal 1-3, elongated, spicate at the apex: spikes dense, secund, circinate, bractiate at the base: bracts cordate, cuculate, obtuse; dentate.

Neilgherries, on moist shaded rocks, on the banks of the stream at Burlear, abundant. Courtallum on similarly situated rocks. Ceylon, "in clefts of moist rocks in forests."

This is a curious and interesting genus, the peculiarities of which I had not studied when the drawing was made which is therefore defective in one or two minute points.

1355. Isanthera permollis. (Nees. *Cyrtandra lanuginosa*, Br. in Wall. List. *Is. floribunda?* Gardner, Cal. Journal.)

Courtallum, in shady moist jungles. Western slopes of Shevagherry mountains in similar situations, in great profusion, flowering in August.

Suffruticose, erect, simple, glabrous below, woolly tomentose above: leaves congested towards the apex, short petioled, alternate, obovato-cuniform, acute or shortly acuminate, minutly serrated, pinniveined, pubescent above, tomentose beneath; tomentum in the dried specimen rusty or tawny coloured. Peduncles axillary, about the length of the petiols, slender drooping: cymes many-flowered: calyx 5-parted, lobes lanceolate acute, woolly, nearly as long as the corolla. Corolla 5-lobed, lobes suborbicular. Stamens 4, didynamous, inserted on the bottom of the tube, filaments recurved. Anthers subglobose, 1-celled, dehiscing transversely. Ovary free attenuated upwards, 1-celled, or imperfectly 2-celled: placentæ 2, parietal, expanding within into a flat ovuliferous lamina, revolute on the margins: style short, stigma simple, blunt. Capsule 2-valved, 1-celled, dehiscence loculicidal. Seed minute, elliptical, compressed or angular, from mutual pressure, testa brown reticulate.

So far as can be learned from description, unaided by figures or specimens, the Indian and Ceylon specimens seem not to be distinct. On which account I have quoted, but with a doubt, Mr. Gardner's *I. floribunda* as a synonym to Nees' *I. permollis.*

Convolvulaceæ.

Under No. 839 I offered some remarks on the genera *Rivea* and *Argyreia.* At that time I had not been enabled to enter critically on the examination of the order and could suggest no remedy for what I then considered erroneous, viz. the loose way in which M. Choisy had referred species to his newly constructed genera, Rivea and Argyreia. Since then I have been enabled to examine the subject with more care and have published the result in a brief article in the Calcutta Journal of Science for July, 1847, which I shall reproduce here for those who may not have seen the original.

Rivea, Argyreia and Lettsomia.

Mr. Choisy, in his Memoir on Indian *Convolvulaceæ*, in taking up Loureiro's genus, *Argyreia*, has changed its character so essentially, that every one of Loureiro's genuine species must now be excluded. I say *genuine*, because if Choisy is correct in referring *Argyreia festiva*, Wall. to *A. acuta*, Lour., which I doubt, then that is not a true species of his genus, which, as defined by himself, has a 4-celled ovary, while *A. festiva* has it 2-celled.

Loureiro's character of the fruit of Argyreia is "bacca subrotunda exsucca 4-*locularis*;" Choisy's, "ovarium 2-loculare 4-spermum." If the berries in Loureiro's plants have four cells, it is obvious the ovary must have had at least an equal number: hence, in assigning a 2-celled ovary to Argyreia, Choisy has altogether suppressed the original genus, and set up a most distinct one in its place, while at the same time he has added to the confusion by placing in his new genus, numerous species with 4-celled ovaries and fruit. In fact, nearly the whole genus, as it now stands in DeCandolle's Prodromus, will, I apprehend, be found *not* to come within his generic character.

It is a curious fact, that Roxburgh fell into a similar error in regard to his genus *Lettsomia*, which, according to his definition, has 2-celled ovaries, while nearly all his species have them 4-celled. When both he and Loureiro wrote, the same importance was not attached to that point of structure that Mr. Choisy has shown it deserved, and their error is easily traced to too rapid generalization. Loureiro must have examined a species with a 4-celled fruit, and took it for granted all the others had the same structure. Roxburgh on the other hand, when drawing up the character of his genus *Lettsomia*, seems to have had a species before him with a 2-celled ovary, and assumed that all the other species with baccate fruit had likewise only two cells. He consequently associated under that character many species with 4-celled ovaries, and only two or three having them 2-celled. M. Choisy, in the course of his examinations, met with some species having four cells, others having two cells: of the former he has constituted the genus Rivea, of the latter his genus Argyreia. But falling into the

same error as Loureiro and Roxburgh, he has generalized where he should have dissected, and has thereby been induced to bring together, under his essential generic character "ovarium 2-loculare," numerous species having ovarium 4-loculare.

With a view to the correction of these blunders, with the least amount of inconvenience to the science, I propose retaining all the three genera, which can be very well done by merely slightly altering the character of Rivea, and leaving the other two as defined by their original founders. For example, Choisy gives to Rivea a capitate or lamelliform 2-lobed stigma and 4-celled ovary. I propose substituting the word *linear* for *capitate*, and referring all indehiscent fruited, convolvulaceous plants having the 4-celled ovary, with linear-cylindrical, or lamelliform stigmas, to *Rivea*, those with 4-celled ovaries and capitate 2-lobed stigmas, to *Argyreia*, and lastly, those having 2-celled ovaries and capitate 2-lobed stigmas, to *Lettsomia.* With this modification, *Rivea* stands in exactly the same relationship to *Argyreia*, that *Convolvulus* does to *Ipomœa*, while *Lettsomia* forms the transition from *Argyreia* to *Ipomœa*, having the indehiscent fruit of the one, and the 2-celled ovaries of the other.

The characters of these three genera will then stand thus:—

Rivea.—Fruit indehiscent. Ovary 4-celled. Stigmas 2-linear, cylindrical or lamellate.

Argyreia.—Fruit indehiscent. Ovary 4-celled. Stigmas capitately 2-lobed.

Lettsomia.—Fruit indehiscent. Ovary 2-celled. Cells 2-seeded. Stigma capitately 2-lobed.

Thus limited, the genera *Maripa*, *Legendrea*, *Marcellia*, *Blinkworthia?* *Humbertia*, and *Moorcroftia*, will probably all be absorbed by *Lettsomia*, along with some of the species now referred to Argyreia, such as *A. acuta* (Ch.), *A. aggregata* (Ch.), *A. festiva* (Wall.), *A. setosa* (Ch.), *A. elliptica* (Ch.), thus limited, our genera will possess precision of outline very favourable for the determination of their species: as they now stand, that is wanting, and determination is consequently most difficult, whence we now find species of Argyreia, as here limited, referred to *Rivea*, *Argyreia*, and even to *Ipomœa.*

1356. Rivea ornata (Choisy), stems climbing: leaves petioled orbiculato-cordate or reniform, glabrous above, whitish tomentose beneath: peduncles elongated, spicato-panicled or umbellate: sepals ovato-lanceolate bluntish, 5-6 lines long, coriaceous, externally villous: corolla slender, tubular, berry smooth.

Balaghat mountains, Madras.

My specimen differs in one or two points from the above character, the peduncles are short and the lobes of the calyx acute, but as it agrees in other respects, I consider these differences of secondary importance, and refer them without hesitation to that species.

1357. Argyreia fulgens (Choisy), tomentose or villous: leaves lanceolate long acuminate; glabrous nigrescent above (in drying), argentio-tomentose beneath: peduncles shorter than the petiols, brachiately and loosely many-flowered: bracts narrow lanceolate or wanting: sepals villous, ovate, very obtuse, the exterior ones the smallest, clothed with white villi.

Courtallum, flowering in August and September.

The specimen is represented glabrous which it is not; the branches being clothed with appressed white villi and the under surface of the leaves are, from the same cause, somewhat shining-silky white. Properly speaking no part of the plant is tomentose, the ramuli being villous, the under surface of the leaves sericious.

1358. Argyreia tillæfolia (R. W. *Rivea tillæfolia* Ch.), twining, greyish pubescent: leaves roundish-cordate, sometimes obtuse, sometimes acuminate, pubescent beneath, petioled: peduncles short, 1-3 flowered: sepals roundish obtuse, afterwards enlarging, corolla inflato-cylindrical: fruit coriaceous, enclosed within the enlarged calyx.

Coimbatore and elsewhere, in low moist soil, flowering during the autumnal rains, and maturing its fruit in December and January.

This is a large diffuse species and, when in full flower, a very handsome one, becoming, however, very much the reverse as the fruit, or rather enlarged calyx, as large as walnuts, approach maturity; after which the fructiferous ramuli decay to give place to a new series which make their appearance with the rains of June and July.

1359. Lettsomia aggregata (Roxb. *Argyreia aggregata*, Choisy), procumbent diffuse or climbing, incano-tomentose: leaves ovato-cordate, glabrous above; incano-tomentose beneath, obtuse: peduncles a little longer than the petiols, capitately many-flowered: capitulæ approximated on the ends of the branches: bracts involucrate, ovato-orbicular very obtuse, whitish, about 3 lines long: sepals ovate obtuse externally white, exterior ones a little longer: corolla about twice the length of the calyx, stamens long, exserted, ovary 2-celled with 2 ovules in each cell.

Courtallum, Pulney mountains, Mysore, &c.

A diffuse shrub, climbing over trees or sometimes spreading extensively over rocky ground; flowering during the autumnal rains. Flowers pink coloured, berries red, often one-seeded by abortion, inclosed in the enlarged persistent calyx. The cymose capitulæ are too much spread out in the drawing to give an accurate idea of the plant as seen growing.

1360. Lettsomia setosa (Roxb. *Argyreia setosa*, Choisy), adpressed hairy: leaves cordato-ovate, or roundish cordate acuminate, glabrous above adpressed strigons beneath: peduncles longer than the petiols, rigid, cymosely many-flowered: bracts uniform-orbiculate, obtuse, externally hairy, embracing the pedicels and flowers: sepals externally strigous, ovato-orbiculate obtuse, coriaceous, 2-3 lines long, enlarging with the fruit: corolla campanulate, 6-9 lines long, contracted within the calyx; lobes acute, silvery without.

Malabar. Aboo. Stocks.

This, I believe, is the same species as that figured No. 851, all except the dissection of the ovary which, under the erroneous belief that the plant figured belonged to *Arg. speciosa* was added from a genuine specimen of that species, that plate, therefore, except as showing a somewhat different form of this plant, may be considered cancelled, to be replaced by one of the species named so soon as I can get good specimens which I have not at present.

Flowers pink coloured within, the outer surface densely clothed with white silvery hairs.

1361. CALONYCTION SPECIOSUM (Choisy), stem extensively scandent: leaves large, very glabrous: peduncles long: sepals equal aristate.

Coimbatore district, not unfrequent near villages, but probably introduced, as it is frequently cultivated under the name of Moon Flower, in allusion to the flowers opening in the evening and dropping off in the morning.

1362. LEPISTEMON FLAVESCENS (Choisy), stem herbaceous, twining, hairy: leaves cordato-ovate, entire or three-lobed, strigoso hispid above, nigrescent: cymes peduncled, axillary, dense, shorter than the petiols: corolla 5–6 lines long, tubular, inflated at the base, glabrous, or externally pubescent on the teeth.

Mergui. Griffith.

The distinguishing feature of this genus is the large hairy scales at the base of the filaments and as no figure exists of it, I am happy to have the opportunity of figuring one.

1363. IPOMÆA PILEATA (Roxb.), stem slender, villous: leaves cordato-acuminate mucronulate, often glabrous, petiolate: peduncles scarcely the length of the petiols: flowers 5–6, sessile in a perfoliate boat-shaped receptacle: bracts obovate, hairy: sepals intricately hairy, the exterior ones larger, ovate; interior linear, about 3 lines long: corolla tubular campanulate: capsule glabrous.

Quilon, Malabar.

The leaves of my specimens are decidedly pilose, perhaps scarcely so much so as shown in the figure, but they are far from glabrous.

1364. IPOMÆA WIGHTII (Wall.), stem terete, elongated, retrorsely pilose: leaves cordato-acuminate acute and mucronulate at the apex, the inferior ones oblong, with the margin sinuately dentate, the younger ones 3-lobed, all lanuginose above, whitish tomentose beneath, 2–3 inches long; petiols long hairy: peduncles longer than the petiols, 2–5-flowered: bracts linear aristate, 4–6 lines long, acute, hairy, and as if embracing a capitulum: sepals oblong linear, aristate, acute, hairy, 5 lines long: corolla campanulate, rose coloured, about an inch long: capsule pubescent: seed glabrous.

Neilgherries, Mysore, &c.

This species is figured in Wallich's splendid Plant. Asiat. rar., but from a very luxuriant cultivated specimen. The accompanying figure was taken from native, but dried, specimens, hence it may err somewhat in the opposite direction as regards the size of the flowers.

1365. CONVOLVULUS RUFESCENS (Choisy), stems rusty red: leaves hastato-cordate, acute at the apex, mucronulate; sinuate on the margin, 2 inches long, the auricles crenato-lobate; petiols 7 lines long: peduncles short 1–3-flowered: bracts minute: pedicels 3–6 lines long: sepals ovato-acuminate, ciliate, acute, 3 lines long; exterior ones pubescent: corolla 5–6 lines long: capsule glabrous.

Neilgherries, not uncommon.

A procumbent plant, spreading to a considerable extent among long grass.

1366. CONVOLVULUS GLOMERATUS (Choisy), root straight: stems many, prostrate or ascending, 1–2 feet long, terete; simple, glabrous: leaves ovate or sub-roundish, short petioled, acute at the apex, 6–10 lines long, 3–4 broad, glabrous or the upper ones scarcely pubescent: flowers glomerate; capitula from about the middle to the ends of the branches, axillary, peduncled: peduncles 3–10 lines long, terete, villous: bracts ovato-lanceolate acute, villous, 4 lines long; a little longer than the capitulum: capitula with from 10–12 sessile flowers; and acute hairy bracts: sepals lanceolate acute, lanato-villous, 2–3 lines long: corolla a little longer than the calyx: seed glabrous.

Scind. Stocks.

The specimens from which the drawing was made were communicated by Mr. Stocks. They differ in some points from M. Choisy's character, but as they perfectly correspond with a "Unio Itineraria" specimen, named *Convolvulus capitulatus*, I have no doubt of this being the true plant.

1367. CONVOLVULUS MICROPHYLLUS (Sieb.), stems elongated, hairy, many springing from one root: leaves lanceolate, attenuated at the base into a minute petiol, 3–6 lines long, scarcely 2 broad: flowers axillary, sometimes solitary sessile, sometimes 2 or 3 on a rudimentary ramulus: bracts linear hairy, two lines long: sepals linear acuminate, hairy, broad at the base, 3 lines long: corolla scarcely twice the length of the calyx, villous: capsule globose, glabrous.

Scind. Stocks.

I have not, as in the preceding, an authentic specimen with which to compare the one figured, but it seems to accord so well with the character as to leave little room for doubt as to its being the species named.

1368. CONVOLVULUS RHYNIOSPERMUS (Hochst), stems herbaceous 6–8 inches high, terete, ramous or several from one root, pubescent, leafy: leaves ellíptico-lanceolate, sometimes acute, sometimes obtuse at the point, mucronulate, nearly glabrous, an inch long; petiol very short, villous: peduncles axillary woolly, very short, one-flowered, scattered over nearly the whole branch: bracts and sepals elliptic acute, 2–3 lines long, the younger ones woolly within.

Scind. Stocks.

1369. SEDDERA EVOLVULOIDES (R. W. *Breweria evolvuloides*, Choisy), stems suffruticose ramous: leaves ovato-lanceolate, sessile, glabrous, 3 lines long, acute: flowers axillary, solitary, short peduncled: sepals ovate, equal, acute, often recurved, about a line long: corolla very small.

Sea Coast, near Tutichoreen, and many other places.

Though not properly speaking common, it can scarcely be called a rare plant. The circumstance of M. Choisy having referred this species to Breweria seems to indicate that these genera scarcely deserve to be kept distinct.

1370. BREWERIA ROXBURGHII (Choisy), ramous; ramuli ferrugineo-villous: leaves ovato-cordate subacuminate, ferrugineous, long petioled: peduncles about the length of the petiols, 3-or many-flowered:

sepals ovato-acuminate or ovato-rotundate, subequal, 3 lines long: corolla rufescent, narrow at the base.

Travancore and Mergui. Specimens were communicated from the latter station by the late Mr. Griffith.

1371. Cuscuta Arabica (Fresen. pl. æg.), stem thread-like: capitula of flowers sessile; each flower sessile or pedicelled: calyx ½ line long, fleshy: corolla a little longer than the calyx, 5-cleft; marcescent round the base of the capsule; lobes straight, acute: stamens sub-exserted; scales of the corolla scarcely conspicuous or wanting.—Stems yellowish white: calyx white: stamens inserted on the throat, short: stigmas subcapitate: capsule globose, 4-sided.

Scind. Stocks. Parasitic on *Amaranthus oleraceus*, &c.

1372. Cuscuta hyalina (Roth), peduncles about 3-flowered; flowers pedicelled: corolla hyaline, longer than the calyx, lacineæ lanceolate.—Stems filiform, corolla 4–5 cleft, about twice the size of the calyx: stamens attached to the throat of the corolla with over-lying scales: scales fimbriated on the margin: flowers whitish or pale yellow: capsule globose.

Palamcottah, on stems of *Amaranthus oleraceus.* This form seems intermediate between Roxburgh's *C. sulcata* and Roth's *C. hyalina;* it does not agree with the description of either, but I prefer referring it to the latter, as the principal point of difference consists in the number of parts of the flower, quaternary in his, quinary in mine, most likely accidental. In other respects may seem to agree very well.

1373. Cuscuta Chinensis (Lam.), stems slender, filiform: fascicles of flowers lateral, glomerulatate or sometimes loosely panicled, each flower minute, sessile or subsessile: calyx 5-lobed, lobes ovate oblong obtuse, ½ a line long: corolla campanulate, scarcely twice the length of the calyx, 5-lobed: minute penicellate scales inserted on the throat.

Ceylon, parasitic on Vinea rosea. Apparently a widely distributed and rather variable species, as it has several names.

"Fascicles of flowers squamate at the base: calyx scariose shining, with the lobes angled (Lam.), carnoso sulcated (Roxb.): lobes of the corolla often reflexed, sometimes lanceolato-ovate, sometimes linear acute: stamens exserted, inserted on the throat by a short filament: styles straight or slightly diverging, withering on the apex of the capsule: capsule round: corolla deciduous not marcescent round the capsule." Ch. in D. C.

1374. Ipomæa bracteata (R. W.), herbaceous, twining, everywhere clothed with long pubescence: leaves long petioled, round cordate mucronate: peduncles about the length of the petiols, cymosely 3-flowered: flowers sessile, small, the lateral ones, each furnished with 3 ovate cordate, obtuse, foliaceous bracts: sepals about the length of the corolla: corolla subcampanulate, tube glabrous, limb somewhat pubescent on the angles: stamens incluse.

Quilon.

1375. Ipomæa campanulata (Linn.), stem striated, glabrous, ramous: leaves cordate acute, large, glabrous, reticulated beneath with redish veins, long petioled: peduncles many-flowered, spicately racimose, as long as the petiols; pedicels afterwards thickening, black: sepals about ½ an inch long, ovato-orbicular, equal, glabrous: seeds silky.

Eastern slopes of the Neilgherries.

A large and very handsome species: flowers white, tinged with rose, purplish near the bottom of the tube. The only figure yet published, so far as I am aware, of this species is Rheede's, and that seems so far characteristic as to leave but little room to doubt that this is his plant. I do not feel equally sure of its being identical with the Timour one from which M. Choisy's character is drawn.

1376. Porana racemosa (Roxb.), herbaceous, twining, glabrous or pubescent: leaves cordate acuminate, cauline ones long petioled, floral ones (bracts?) sessile, stem clasping: panicles racemose, loose, flowers long pedicelled: sepals ciliate, at first acute, afterwards enlarging: corolla tubular campanulate, limb 5-parted, spreading: ovary 2-seeded: style filiform: stigma capitate: seed solitary: embryo contorted.

Eastern slopes of the Neilgherries, between Burliar and Coonoor.

There seems little room to doubt that this plant is identical with the Nepaul one, so far at least as can be made out from description and specific character. While examining it, I was led to scrutinise the characters of the genus more closely than when publishing my figure of *Porana volubilis* and very unexpectedly found that that plant, so far as the characters derived from the *style, stigmas,* and *ovary* show, is a genuine species of the more modern genus, *Breweria*, as a comparison of the analysis of that figure (No. 347), which I have again verified, with those of the accompanying figure, No. 1370, of *Breweria Roxburghii*, will at once show. This fact, if rigidly followed to its consequences, must give rise to a troublesome alteration of names and a great addition to an already abundant list of synonyms. *Porana volubilis* of Burman being the type of the genus, and minutely according in structure with Brown's *Breweria*, it necessarily results that it is equally the type of that genus, consequently all the species of the latter, under the law of priority, must be referred to the former, thereby reducing the genus *Breweria.* This alteration will, I presume, have the effect of restoring Sweet's genus *Dinetus*, established for the reception of *Porana racemosa* and *P. paniculata.*

These remarks are based on the supposition that Choisy is correct in referring my figure No. 347 to *Porana volubilis*, a point which I cannot verify for myself by comparison with Burman's figure, my copy being imperfect and wanting that plate (No. 21). My plant certainly corresponds, in every particular but one, with Roxburgh's description, namely, in having a 2- not 1-celled ovary, and both correspond with Burman's description, so far as it goes, whence I infer Roxburgh has fallen into an error in that particular.

SERICOSTOMA. (J. E. Stocks' MSS.)

Calyx 5-parted, lobes unequal, the 2 larger ones exterior in æstivation. Corolla sub-hypocrateriform,

5-cleft; lobes imbricated in æstivation; throat closed with hairs radiating towards the centre. Stamens inserted on the sinuses; filaments short: anthers versatile, at length exserted. Ovary deeply 4-parted, lobes distinct from the style with one erect ovule in each. Stigma capitate, two lobed. Nuts 1–2, by abortion, angular within, convex and granular on the back, acuminate at the apex, stipitate at the base, shorter than the persistent calyx, seed erect, radicle minute, superior, cotyledons ovoid, thick.

A Scindean under shrub. Stems woody at the base, decumbent; ramuli herbaceous, clothed with adpressed hairs. Leaves sessile, linear lanceolate. Racemes short, with a terminal bract, opposite the leaves, sub-scorpioid, 2–5-flowered, one of the flowers more remote. Corolla white, lobes of the limb very hairy, lacero-dentate at the apex; throat thickly beset with slender, silky, crispy hairs.

I am indebted to Mr. Stocks for the specimens from which the accompanying figure is taken and also for the above generic character.

This new genus seems very nearly allied to *Lithospermum*, differing principally in the unequal lobed calyx, the very hairy throat of the corolla, and the stipitate nuts, points which I now suspect are scarcely of generic value when so strongly opposed by habit, as we find them in the present instance.

1377. Sericostoma pauciflorum. (Stocks.)

Baikur near Deesa, Scind.

1378. Cordia Myxa (Linn.), branches terete, glabrous: leaves petioled, ovate, on young trees repandly-dentate, afterwards entire; smooth above, roughish beneath: panicles terminal or lateral: flowers somewhat pedicelled, 5-cleft, polygamous: calyx oblong, campanulate, silky within: tube of the corolla about the length of the calyx, lobes oblong linear; stigmas dilated erose on the margin: drupe ovoid mucronate.—Buds tomentose. Drupe yellowish or pale; flesh viscid, nut two celled.

The fruit, according to Roxburgh, when cut, have a heavy disagreeable smell, but are eat by the natives when ripe. The tree is not very uncommon in some parts of the Coimbatore district, flowering in December. The flowering season is of short duration, and many of the flowers are sterile and soon drop. They are also very apt to separate when drying, so that it is difficult to preserve specimens.

1378. Cordia obliqua (Willd. *C. tomentosa*, Wall., *C. Wallichii*, G. Don, D. C., *C. domestica?* Roth), branches and young shoots glabrous, somewhat irregularly angled or nearly terete: leaves petioled, suborbicular, quite entire, rounded or cordate slightly oblique at the base, smooth and glabrous above, when young villous beneath: panicles supra axillary on the young shoots: calyx oblong, campanulate, before opening densely tomentose on the apex, 5-lobed: tube of the corolla shorter than the calyx, limb 5-cleft, lobes linear stigmas long, exserted, dilated: drupe ———.

Malabar, flowering in March.

A careful comparison of this plant with Willdmow's figure and description leaves scarcely a doubt on my mind that it is really his plant. Neither can I hesitate in admitting it to be Wallich's *C. tomentosa*, and as both he and Roth have their specimens from the same source, Hyne's Herbarium, I think there is strong reason to infer that Roth's *C. domestica* must also be referred here, unless, which seems not improbable, the two species were mixed in his collection.

This last supposition seems the more probable, as I can scarcely discover an adequate specific distinction to keep them both up unless that is found in the difference of the flowering season and in the fruit, which I do not know. Feeling confident that this is really Willdmow's plant, I have given it a place here, though I doubt its being distinct from *C. Myxa*, simply with the view of aiding towards clearing up a doubt with respect to the two plants.

1379. Cordia Rothii (Ræm. and Sch.), leaves sub-opposite entire, from lanceolate obtuse to spathulate, tapering to the base, petioled, scabrous: corymbs terminal, afterwards axillary, dichotomous, divaricated: flowers 4–5-cleft, pedicelled: calyx obsoletely 4–5-toothed; those of the fruit campanulate, repandly denticulate on the margin: drupe roundish, smooth, about 4-celled.

Mysore, flowering in May and June.

A very distinct species, well named *C. cuniata* by Hyne, many of the leaves being nearly cuniate in their outline.

1380. Cordia fulvosa (R. W.), branches glabrous, terete, young shoots and leaves, petiols, peduncle and calyx, before expansion, clothed with short fulvous pubescence: leaves petioled, ovate, obtuse at both ends, sometimes sub-orbicular entire or repandly toothed, smooth, dull or somewhat hoary, being thinly clothed with very short pale fulvous pubescence; corymbs terminal and axillary; flowers congested on the points of the ramuli: flower buds villous on the apex, obovate: calyx sub-campanulate irregularly 4–6-toothed: corolla deeply 4–6-cleft, lobes obovate emarginate, glabrous, tube hairy: stamens as many as the lobes; filaments glabrous, inserted on the mouth of the tube: anthers large, cells somewhat divaricated at the base: ovary 4-celled: stigmas filiform: fruit (immature) imbrased at the base by the enlarged cup-shaped calyx, apiculate.

This species seems to rank next *C. trichostemon*, associating in the peculiar fulvous pubescence with which both are covered, but differing in the form of the foliage and glabrous filaments. It seems also to associate in many points with *C. Leschenaultii* to which I at first referred it, but on more careful examination cannot quite reconcile it to the character of that species.

1381. Cordia Perrottetii (D. C.), branches terete, the younger ones, petiols, and peduncles velutino-scabrous, rufescent: leaves petioled, elliptic, obtuse at both ends, entire, scabrous above somewhat velvety beneath; the young ones tomentose: panicles terminal sub-racimose, shorter than the leaves: calyx oblong obtuse, irregularly toothed, tomentose on both sides: tube of the corolla equal to the calyx, 4-cleft, lobes oblong reflexed: stigmas long, exserted. D. C.

Bellary, flowering September and October.

The lobes of the stigma in this species seem on first opening to cohere by pairs and afterwards separate. The plant here represented seems to correspond in every thing with DeC.'s character, except the size of the leaves; in his they are said to be 3 inches long and 1½ broad, in mine they scarcely exceed half that size. This difference is in itself of small moment, but it may be indicative of the existence of other differences to which the character does not allude.

1382. Ehretia lævis (Roxb.), arboreous, glabrous: leaves petioled, from oval to oblong lanceolate, acuminate at both ends, smooth, shining above: corymbs axillary, dichotomously many-spiked: pedicels and deeply 5-cleft calyx slightly hairy: corolla rotate, lobes reflexed: stamens exserted.—Leaves from 3 to 6 inches long, from 1½ to 3 broad; petiols from ½ to 1½ inch long, axils of the veins sometime hairy or furnished with a gland: flowers sub-sessile, secund on the numerous circinate spikes: drupes about the size of a large pepper corn; red when ripe.

Neilgherries, on the eastern slopes, flowering during the cool season December and January.

1383. Ehretia ovalifolea (R. W.), sub-arboreous, glabrous; leaves short petioled; from oval obtuse at both ends to somewhat obovate, or ending in short blunt acumen, smooth on both sides: corymbs terminal or axillary, dichotomously branched, circinate: flowers secund, short pedicelled: calyx deeply five-cleft, slightly hairy: corolla rotate, limb reflexed: stamens exserted: style about the length of the tube of the corolla scarcely exserted: drupe red when ripe, about the size of a small pea.

Coimbatore, flowering during the rainy season, from August till October: fruit ripe March and April.

A small very ramous tree, leaves from an inch to 1½ or 2 inches long and about half the breadth, smooth and glabrous on both sides, the older ones somewhat coriaceous. This species seems nearly allied to *E. aspera* from which, however, it seems quite distinct.

1384. Ehretia Wightiana (Wall.), shrubby, glabrous, ramuli slender, smooth: leaves elliptico-lanceolate, sub-acuminate above, tapering below into longish slender petiol, quite entire, smooth on both sides: corymbs terminal, compact, dichotomous; branches revolute: flowers secund, sub-sessile: calyx 5-lobed much shorter than the tube of the sub-hypocarteriform corolla: stamens exserted: style equaling the tube: drupes, immature, about the size of a large pepper corn.

Courtallum, flowering August and September.

Mr. G. Don remarks that this species is nearly allied to *E. umbellulata*, Wall. That species, judging from the discription, Alph. D. C. has removed from this genus to Ilix, then, acting on Don's remark and not having seen a specimen, has equally excluded this species from the genus *Ehretia*, in which he has certainly fallen into an error.

1385. Ehretia (xeroderma) cuniata (R. W.), shrubby, branches virgate terete, glabrous, nigrescent, smooth: leaves obovate cuniate, retuse, subsessile, glabrous and smooth on both sides, quite entire, coriaceous: flowers solitary, axillary, on the ends of short leafy branches, sub-sessile: calyx 5-parted, lobes ovato-lanceolate, equaling the tube of the corolla, glabrous: corolla 5-cleft, lobes ovate obtuse: stamens attached near the bottom of the tube, scarcely exserted: style filiform: stigma capitate: fruit dry, 4-seeded.

Banks of the Cavery river near Errode, flowering February.

A small, very ramous bush, growing on the banks and on sand-banks in the bed of the river. Appears very nearly allied to Wallich's *E. viminia*, but, so far as I can make out from the discription, quite distinct.

1386. Tournifortia reticosa (R. W.), shrubby, climbing: branches terete and with the under surface of the leaves sparingly covered with short appressed pubescence: leaves short petioled, ovato-lanceolate acuminate, acute, round at the base, dark green above, pale beneath and marked with a delicate net-work of brownish purple veins: peduncles leaf-opposed, dichotomous; branches divaricating, spikes corymbose, circinate: calyx 5-parted, lobes ovate, hispid: corolla 4 or 5 times longer than the calyx, hairy, obtusely 5-lobed: stamens 5, inserted near the base, included: fruit ——.

Western slopes of the Neilgherries, below Nedawuttem, flowering in April, and in Coorg, (Jerdon).

A large climbing shrub. One I saw was 10 or 12 feet high: leaves 4–6 inches long, about 1½ broad, sparingly sprinkled with hairs above, pubescent beneath. What I gathered as fruit proved on examination the nidus of an insect. This species seems most nearly to approach *T. viridiflora*, but is quite distinct, as shown at once by the comparatively large flowers and small calyx.

The plant figured No. 892, under the name of *Heliotropium Zeylanicum*, is, I now find, a species of *Tournifortia*, which may be thus defined:

Tournifortia (Messerchmidia) Zeylanica (R. W. *Heliotropium Zeylanicum*, Burm.), suffricticose, erect, ramous, hispid: leaves oblong-lanceolate, piloso-hispid on both sides: spikes elongated giminate circinate: tube of the corolla 5-cleft, about twice the length of the calyx; lobes subulato-acuminate, toothed in the sinuses: pericarp dry, consisting of 4 one-seeded nuts.

Frequent in cultivated land about Coimbatore, flowering during the autumnal rains and throughout the cool season. I also met with it in the Bellary district.

This species seems very nearly allied to both *T. subulata* and *T. Edgeworthii*, if indeed they be not all the same species. The mode of æstivation of the corolla found in this species is common to this last section of *Tourniforita* and to the first (Catimas) of *Heliotropium*, as they stand in DeC.'s prodromus, forming a beautiful transition connecting link between the two genera. In both the tips of the segments of the corolla are long and narrow and, before the full expansion of the flowers, are folded down into the tube.

I believe we are indebted to DeCandolle for first noticing this curious æstivation, which seems so peculiar as almost to justify the removal of these sections from their respective genera to be united to form an intermediate genus.

1387. Heliotropium supinum (Lin.), stem herbaceous, decumbent: leaves oval obtuse, plicate, margin obsolately crenate; incanous beneath, villous above: spikes sub-solitary: calyx 5-toothed, closed, falling along with the enclosed fruit: fruit 1–3 pyrenons, 1–3-seeded.

β. Malabaricum, stems ascending: leaves incano-tomentose, hairy on both sides: calyx very hairy.

A widely distributed plant, the Indian variety extending from the foot of the Himalayas to Cape Comorin, while the original species seems equally widely distributed over the Southern States of Europe and the Northern ones of Africa and Asia Minor; it is also noted as a Cape plant.

1388. Heliotropium Coromandelianum (Retz), stems herbaceous, erect or diffuse and with the leaves adpressed, villous: leaves obovate oblong, entire, mucronate: spikes ternate, conjugate, or solitary, ebracticate: lobes of the calyx somewhat unequal: corolla longer than the calyx: style scarcely any: nuts sub-globose, hispid at the apex.

A common plant, generally to be met with in flower at all seasons, but in greatest perfection during rainy weather.

1389. Heliotropium scabrum (Retz), procumbent, diffuse, strigous: leaves alternate, somewhat oblique, entire; towards the ends of the branches sub-opposite: flowers small, congested on the ends of the branches, concealed among the leaves: sepals sub-unequal, hairy: corolla scarcely exceeding the calyx, sub-ventricose: anthers apiculate: stigma dilated, shortly apiculate: nuts 4, roundish, glabrous.

Coimbatore, frequent, flowering during rainy weather.

This appears a very distinct species. The stems are always spreading, hairy; leaves small, sub-sessile, ovate or sub-cordate, hairy on both sides, congested about the ends of the branches, where they surround the small white almost sessile terminal flowers: flowers small, several congested on the apex of the branches, never racemose or spicate: limb white, throat hairy, tube yellow, approaching to orange colour.

DeCandolle asks whether *H. brevifolium*, Wall. is *H. scabrum*, Retz; but gives neither the character nor description of the latter to enable any one to judge: thus in effect suppressing the older name in favour of the newer, supposing them to refer to the same plant, and in the event of their being referable to distinct plants suppressing this one altogether because he happened not to know it! I have introduced into the plate two forms, one more, the other less luxuriant.

1390. Heliotropium marifolium (Retz), suffruticulose, diffuse, ramuli, leaves and calyx adpressed-strigous: leaves linear lanceolate acute, entire, revolute on the margin: racemes sub-spicate solitary, flowers alternate, bractiate: bracts lanceolate deciduous, longer than the calyx, strigous: calyx 5-parted about the length of the tube of the 5-lobed plaited corolla: stamens inserted on the throat: anthers conate, apiculate: nuts globose, covered above with short rigid hairs.

Coimbatore, not unfrequent, flowering during rainy weather at any season.

Lehman seems to have taken up a form of this species and described it as *H. scabrum* of Retz, from which it is most distinct.

1391. Heliotropium linifolium (Lehm.), suffruticose, erect, sparingly ramous, glabrous, 4-sided towards the apex: leaves linear acutish, entire, revolute on the margin, sparingly adpressed strigous on both sides: racemes sub-spicate, solitary, short, bractiolate: calyx very short, slightly hairy: lobes of the corolla acutish, tube ventricose, pilose: nuts glabrous or sometimes roughish.

Flowers short pedicelled: corolla thrice as long as the calyx, limb white, tube yellowish. The difference between this and *H. tenue*, seems very slight, I believe, however, this is the true plant from which the character of the species is taken.

1392. Heliotropium Rottleri (Lehm.), shrubby, stems short, erect at first, afterwards dividing into many divaricating somewhat horizontal branches; ramuli and leaves whitish strigous: leaves sub-sessile, ovato-lanceolate acutish, revolute on the margin: spikes lateral 1–2 inches long, circinate: flowers sub-sessile, secund, the under side of the rachis bearing the bract: bracts ovate, strigous, appressed: calyx 5-parted, lobes ovate, acute a little shorter than the tube of the corolla: corolla pilose externally, throat closed with hairs: fruit strigous, globose: nuts 4, globose exteriorly.

Coimbatore, frequent. In flower at all seasons.

A very distinct but not easily described or represented species. The figure here given is very characteristic of the more usual form, having a number of branches rising direct from the root, and after ascending an inch or two dividing and spreading out horizontally, each, after giving off a floriferous branch which becomes a raceme, lengthening outwards. I have seen bushes covering several square feet of surface.

1393. Arnebia hispidissima (D. C.), whole plant most hispid, from rigid bristles intermixed with pubescence: stem ramous from the base, erect: leaves lanceolate somewhat blunt, the floral ones narrower acute: spikes terminal, solitary, sub-secund: lobes of the calyx sub-linear, (unequal in my specimen, R. W.) about half the length of the long tubular villous corolla: style bifid: nuts rugous, somewhat 3-sided. Root slender, simple, red: plant 4–6 inches high: bristles white: corolla yellow: anthers inserted, either within the tube or on the throat: nuts imperforate at the base. D. C. prod. x. p. 94.

Scind, common. J. E. Stocks, to whom I am indebted for the specimen here represented.

This specimen seems to agree in all essential points with the character except the calyx, the lobes of which are very unequal in size, occasionally even more so than shown in the figure, giving reason to suspect that this is a distinct species. As however I have not a specimen nor full description to which I can refer for information, I do not feel justified, with my present imperfect knowledge, in giving this a new specific designation, though, from the tendency said to exist in this plant to variation in the position of the stamens either within the tube or on the throat, there is ground for suspecting that two

species are confused—the one with included stamens and the lobes of the calyx equal, the other with exserted stamens and the lobes unequal, as here shown.

1394. ECHINOSPERMUM CÆLESTINUM (R. W. *Cynoglossum cœlestinum?* Lind.), sparingly pubescent, except on the veins on the under-surface of the leaves and younger branches: stem erect, ramous: radical leaves large, reniform-cordate, entire, smooth, about 9-nerved at the base, somewhat cuspidate at the apex; cauline ones ovato-lanceolate, sessile: racemes ebractiate, dichotomous: calyx 5-parted, lobes ovate bluntish: tube of the corolla about the length of the calyx, limb 5-cleft spreading; lobes orbicular: nuts ovate, depressed, bound with a membranous wing, glochidiate on the margin and furnished with prickles on the middle.—Apparently biennial, one or two feet high: leaves smooth and nearly glabrous: fructiferous pedicels reflexed: corolla apparently blue with a paler margin: scales on the throat obtuse, inflexed at the point.

Belgaum and Bombay.

I am indebted to Mr. Law of Bombay for the specimen here figured, he sent it from the latter place as a species of "Cynoglossum probably *C. cœlestinum*," Lindley.

The plant agrees so well with the character of that species that Mr. Law's conjecture seems correct, except for the circumstance of this being, as I understand the genus, a true *Echinospermum*. Under the impression that it may be Lindley's plant I have retained his specific name.

1395. CYNOGLOSSUM FURCATUM (Wall.), stems ramous, adpressed, pubescent or tomentose, the hairs on the lower part reflexed: leaves glaucescent, adpressed-pubescent; radical ones petioled, oval-lanceolate, acute at both ends; cauline ones sessile, the upper ones half-stem-clasping, ovato-cordate: racemes paired, slender, ebractiate, secund, hairy.—Flowers purple, scales of the throat two-lobed.

Neilgherries, very common, rising from one to three feet high, and in flower at nearly all seasons.

This species appears very nearly allied to *C. micranthum*, from which indeed it seems scarcely to differ; I believe, however, this is the true *C. furcatum*. If I have not confounded the two species this has an extensive range of geographical distribution, extending from the Himalayas to Ceylon, and is generally to be met with in alpine regions throughout that wide extent of country.

1396. DATURA FASTUOSA (Nees), annual; leaves ovate acuminate, repando-dentate, unequal at the base, and like the stems puberulous; fruit drooping, tubercled.

Common about Coimbatore, distinguished from *D. Stramonium* by the fruit drooping in this, erect in that.

1397. SOLANUM DENTICULATUM (Blume), stem suffruticose: inferior leaves solitary, upper ones paired, smoothish; one of them larger, oblong acuminate at both ends, the other smaller, somewhat obovate: flowers fasciculately-aggregated, lateral: calyx minutely 10-denticulate, furrowed.

Neilgherries, not unfrequent in clumps of jungle in moist soil near springs and streams.

1398. SOLANUM VERBASCIFOLIUM (Linn.), shrubby: leaves ovate-oblong acuminate, entire, tomentose, surfaces discoloured: axills leafless: corymbs sub-terminal, dichotomous, peduncled: calyx half 5-cleft. Nees.

Neilgherries, frequent about the elevation of Coonoor (6000 feet), less so above that zone, generally to be met with in flower and fruit at all seasons. Usually a tall straight bush, but sometimes a small tree with a bushy head; flowers pale yellow or a kind of dirty white.

1399, 1400. SOLANUM FEROX (Linn.), perennante-herbaceous, wooddy at the base: leaves paired, cordate, sinuately angled, woolly tomentose and prickly on both sides: peduncles intra-foliaceous and, like the short pedicels calyx and berries, hairy.

Courtallum, flowering August and September, and Neilgherries always in flower.

1399. SOLANUM FEROX, majus. (Nees.)
Courtallum.

1400. SOLANUM FEROX, minus. (Nees.)
Neilgherries.

Nees Von Esenbeek views these two forms as but varieties of the same species. I think there is room for dissenting from that view, but yet I, for the present, adopt it as my opportunities of examining the correctness or otherwise of his opinion have not been such as to satisfy me on the subject. One circumstance is worthy of note, namely, that the former of these plants, No. 1399, has not, so far as I am aware, been met with on the higher range of the Neilgherries, while the other is quite common. That difference of habit, combined with its glabrous fruit, causes me to doubt the correctness of Nees' decision in this instance.

1401. SOLANUM JACQUINI (Willd.), herbaceous, perennial: stem procumbent, ramous, prickly: leaves ovate oblong, sub-cordate, sinuato-pinnatifid, at first sparingly stellato-hispid on both sides, afterwards smooth shining and quite glabrous, furnished on the disk with numerous long, straight prickles: margins unarmed: racemes prickly, extra-foliacious, few-flowered. Calyx campanulate, 5-cleft, armed, lacineæ broadly ovate cuspidate; spreading in the fruit.

A rather frequent plant, generally met with in open exposed situations, flowering during the cool season and ripening its fruit during the earlier months of the year. Berries red, succulent.

1402. SOLANUM (NYCTERIUM) PUBESCENS (Willd.), shrubby, unarmed, clothed all over with short somewhat viscid tomentose-pubescence: leaves ovate acute, entire or sub-repand: racemes corymbose, lateral: the lower anther larger.

Coimbatore: very common in the low jungles on arid soil near the foot of the hills in this district, and generally in similar places extending all along the range of mountains, nearly to Cape Comorin. It sometimes attains the size of a rather large bush, 6–8 feet high, very ramous: branches

tending to fastigiate: more frequently it is a small, ragged, stunted-looking shrub: flowers blue, anthers yellow, berries red.

1403. Lycium Indicum (R. W.), shrubby, ramous, branches spreading, flexuose, spinous at the apex: leaves fascicled, obovato-lanceolate or sub-spathulate, short petioled: peduncles axillary, solitary or 2-3 together, about the length of the 5-toothed calyx: corolla erect, infundibuliform, about thrice the length of the calyx, contracted near the base: stamens sub-unequal, the longer ones sub-exserted, inserted below the middle of the tube: filaments pilose, not thickened at the base: anthers short, sub-versatile: ovary 2-celled: ovules numerous: stigma capitate: fruit globose, by abortion, 2-seeded (always?): seed compressed-reniform, muricate on the back.

Guzerat and Cambay, flowering chiefly in autumn, September, and October. Stocks.

I am indebted to Mr. Stocks for the specimen from which the drawing was made. The original *L. Indicum* being removed from the genus and this being, so far as I am aware, the only truly Indian species of the genus, and nearly allied to *L. Afruum*, I have given it a geographical specific designation. Judging from the specimens only, this appears to be a low, somewhat spreading, very ramous shrub; each flexure of the larger branches giving origin to a tuft of leaves and smaller branch terminating in a spine. The leaves in some specimens, are more decidedly lanceolate than in the one figured. The flowers which are small and of a slender form appear from the dried specimens to be pale yellow, but as they were unaccompanied with any notes, I am uncertain on that point.

P. S. When preparing to send the above to press, I received the following character and notes on this species from Mr. Stocks. On reconsidering the character of *L. Europæum*, with the aid of Mr. Stocks' notes, it seems not improbable that this plant may yet turn out to be a mere variety of that species.

"Lycium Europæum (Linn?), shrubby, stunted, thorny; branches weak, flexuous, pendent, branchlets spinous, young shoots pubescent: leaves alternate (or fasciculate on the under-eloped buds) lanceolate or narrowly obovate, obliquely flexuous: flowers solitary or fascicled: corolla (white) with its tube twice as long as the calyx: filaments bearded at the base. (From Scind plant.)

"Scind and Guzerat, from Deesa to Cambay, delighting in a salt soil.

"Probably *L. Europæum* of Royle's Illustrations, mentioned as growing about Delhi. Probably 'L. Europæum, L.? or *L. Ruthenicum*, Murray? Hab. pres de Jerusalem' of Decaisne in enumeration of Bove's plants, Ann. Sc. Nat. ii. vol. iv. 352.

"Identical with a Lycium in Schimper's Herbarium gathered near Djedda.

"Most likely distinct from *L. Europæum* in its white flowers and bearded stamens. Varies much in the size and shape of its leaves, in their smoothness or pubescence, in the evenness or waviness of their surface, and in their texture. Calyx with 5-6 minute irregular ciliate teeth. Stamens 5-6, unequal in height. Style sometimes exserted. Fruit dull-yellow or coral-red, globose, bursting the calyx at one side, pulpy, size of a swan shot. Cells 3-8-seeded. Seeds flat lenticular. Flowers chiefly in autumn (Sept. Oct.)."

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EXPLANATION OF PLATES.

VOL. IV.—PART III.

1404-5. Verbascum virgatum (Withering), stem sub-viscoso-hispidulous or glabrous at the base: leaves oblong, glabrous, or glanduloso-hispid beneath; the inferior ones petioled, dentate, or sinuato-pinnatifid; the superior ones sessile or cordato-amplexicaul, or shortly decurrent: racemes glanduloso-hispid; pedicels 2 or 3 together, rarely solitary, shorter or about the length of the calyx: filaments clothed with violet coloured woolly hairs (violaceo-lanatis).

Neilgherries, frequent, flowering during the rainy season.

This plant not unfrequently attains the height of from 6 to 7 feet, though from 3 to 4 is the more common size. Flowers yellow, nearly sessile, the short, bent filaments densely clothed with purplish coloured, woolly hairs.

1406. Celsia Coromandelina (Vahl.), ramous, below clothed with whitish pubescence or woolly, above viscid: radical leaves lyrato-pinnatifid, the superior ones and bracts oblong, ovate, or orbicular, dentate: racemes sub-paniculate; pedicels longer than the calyx: calyx lobes ovate, oblong or serrated.

Common all over the country, flowering during the rainy season.

A plant so widely distributed and, apparently, growing in all sorts of soils, from the marshy paddy bank, up to arid gravels of Coromandel, is naturally variable in its aspect. The form here represented may be viewed as the most usual and normal one, but the specimen selected is a small one.

1407. Mazus surculosus (Don), stoles creeping: leaves inciso-crenate, rugous, hispid, somewhat crisp on the margin; those of the sterile branches orbiculate: lobes of the calyx ovate, obtuse, shorter than the tube: corolla scarcely twice the length of the calyx.—Radical leaves from 1½ to 3 inches long, obovate, oblong; those of the stoles small.

Himalayas, Mussuree, flowering in July.

I am indebted to Mr. Edgeworth, of the Bengal Civil Service, for the drawing from which this figure is taken. It was sent with many others, a few only of which, I regret to say, I have as yet been enabled to publish in this work.

1408. Stemodia viscosa (Roxb.), erect, pubescent, viscid: leaves sessile, ovate, oblong, or lanceolate, acute, narrower towards the base; at the base dilatato-cordate, stem clasping: flowers axillary, solitary, the upper ones racemose: pedicels twice the length of the calyx.—Plant from 10 to 15 inches high. Stem angled. Leaves often ternately verticelled, the lower ones from 1½ to 2 inches long; the upper ones decreasing in size. Corolla 4-5 lines long, deep blue. Style much dilated at the apex.

Frequent in moist or marshy grounds, rice fields, borders of tanks, &c.

This, according to Bentham (D. C. Prod.), is the only Indian species of *Stemodia*. This genus is distinguished from *Limnophila* by the dehiscence of its capsule: septicidal in this, loculicidal in that. So far as this species is concerned, it seems to be a distinction of little value, as it seems to open both ways at the same time, splitting into 4 parts, but with this difference that the loculicidal division extends to the base, the septicidal only as far as the top of the placenta, hence it appears to me it might, except perhaps in habit, have accompanied the other Indian species, leaving *Stemodia* as an American, *Limnophila* as an Indian genus.

1409. Limnophila hypericifolia (Bentham), glabrous, rooting at the base, ascending: leaves sessile, ovate, oblong, obtuse, cordately semiamplexicaul at the base; the floral ones smaller: racemes terminal or axillary: flowers sessile, becoming remote: calyx deeply 5-cleft, divisions lanceolate, the posterior one larger.—Herbaceous, repent at the base, scarcely branched, 1-2 feet high. Leaves about an inch long, punctuate. Corolla 7-9 lines long. Style winged at the bract with 2 acutish falcate auricles. Capsule short, valvate, bifid.

Kotergherry, Neilgherries, in swampy ground, flowering in August.

1410. Artanema sesamoides (Benth.), leaves petioled, oblong or ovate-lanceolate, entire, or serrated: pedicels shorter than the calyx: corolla subcampanulate, twice or scarcely thrice the length of the calyx.—Herbs from one to two feet high, stem acutely 4-angled. Leaves 3-5 inches long, 6-18 lines broad. Calyx at opening from 2 to 3 lines long. Corolla 6-8 lines long.

Malabar, in wet soil, flowering in June.

1411. Bonnaya veronicifolia (Sprengel), stem decumbent at the base or creeping; floriferous branches ascending: leaves subsessile, narrowing at the base, or the inferior ones petioled, oblong, somewhat fleshy, acutely serrated, or the inferior ones sub-entire: flowers racemose, capsules ascending, two or three times longer than the calyx.—Sterile filaments hooked at the point. Capsule 8-10 lines long, curved, acute.

Common every where in wet ground on the banks of water courses, rice fields, &c., flowering during the rainy and cool seasons.

1412. Bonnaya verbenæfolia (Spreng.), erect, ascending or decumbent: leaves subsessile, or the inferior ones petioled, oblong, lanceolate or approaching to linear, somewhat fleshy, entire or serrated: flowers racemose: capsules ascending, (erecto-patentibus, Benth.) two or three lines longer than the calyx.

Common, like the preceding, in wet soil, and flowering at the same seasons. It is nearly allied to it in character and habit, but still seems quite distinct.

1413. Buchnera hispida (Hamilton), plant sub-simple, hispid with long hairs, foliaceous at the base: leaves oblong or lanceolate, dentate, the upper ones linear: spike interrupted, slender, many-flowered: bracts narrow, lanceolate: tube of the corolla shortly exserted: capsule shorter than the calyx.—Stems 1–2 feet long, sparingly branched, hispid, with few long, spreading hairs, especially towards the base. The larger leaves about two inches long, 6–8 lines broad, coarsely toothed, sometimes nearly lanceolate and scarcely 3 lines broad. Calyx hispid, floriferous ones about 3 lines long, with very narrow teeth, fructiferous ones 4 lines long, somewhat inflated.

Coorg. Jerdon. My specimens are not furnished with the hairs mentioned in the character. The differences between *Buchnera* and *Striga* do not seem important, the former has the calyx 5-toothed, not ribbed, with the limb of the corolla nearly equally 5-lobed. The latter has the tube of the calyx ribbed, and the limb of the corolla sub-bilabiate. To my mind they are of scarcely more than sectional value, but as my opportunities of becoming acquainted with the two genera have been few, I adopt Mr. Bentham's view, and retain both as given by him.

1414. Striga orobanchoides (Benth.), glabrous, or minutely puberculous, ramous: leaves minute, squamiform; the floral ones lanceolate, scarcely equalling the calyx.—Plant turns black in drying, but when growing, varies from straw colour to reddish yellow, flowers pale blue. Stems from half a foot to a foot high, erect, ramous, many-flowered. Flowers alternate or opposite with the attached bractea, equalling the calyx. Tube of the corolla exserted, suddenly bent near the apex. The colour appears to be variable, brownish red, rosy, blue, or white.

The specimen figured was selected for the purpose of showing its parasitical origin, for here it is seen springing from the root of a plant of *Lepidagathis cristata.* It does not however confine itself to that plant as its foster mother, but takes root on many others. It is usually met with in red, arid, gravelly soils, the result of decaying granite.

1415. Ramphicarpa longiflora (Benth.), a low plant, with narrow, linear, pinnatifid leaves: tube of the corolla straight, much longer than the limb: capsule longer than the calyx, with the beak very oblique, somewhat incurved.—A small, very ramous herb, from 3 to 6 inches high: leaves smooth, peduncles very short: segments of the calyx long, linear, lanceolate: tube of the calyx from an inch to an inch and half long; segments of the limb short, broad, emarginate.

Tellicherry and Cannanore, in moist soil.

I am indebted to Mrs. Colonel Walker for the specimens here represented.

1416. Campylanthus ramosissimus (R. W.), leaves alternate, sub-spathulate, villous: inflorescence glabrous: anthers not mucronate.—A low, very ramous shrub. Leaves alternate, apparently somewhat fleshy, obovato-spathulate, obtuse, villous. Racemes sub-corymbose, few-flowered, on the ends of the branches. Calyx short, lobes lanceolate, acute. Corolla about half an inch long, tube curved, lobes of the limb pointed. Lobes of the anthers divaricated, not mucronate. Style short; stigma capitate; ovary 2-celled with 2 rows of ovules in each; the base embraced by a cup-shaped disk. The mature capsule I have not seen. *C. salsoloides*, Stocks, not Roth, in D. C. Prod.

"Limestone Hill at Hyderabad (Scinde), in flower February 10, 1847." J. E. Stocks—to whom I am indebted for the specimen.

To my mind, this species is very distinct from that described by Roth.

1417. Micrargeria Wightii (Bentham).

Herbaceous, rigid, rough, ramous plants. Leaves linear, entire or trifid. Floriferous ramuli slender. Flowers subsessile, small: bracts, on the short pedicels, oblong: floriferous calyx scarcely a line long. Capsule longer than the calyx; seed minute.

Courtallum, flowering August and September.

1418. Pedicularis Perrottetii (Bentham), small; sparingly pilose; branches simple; leaves deeply pinnatifid, lobes ovate or oblong, crenate: flowers axillary, pedicelled: calyx tubular with the limb, crested: corolla many times longer than the calyx, with a slender tube.—Tube of the corolla from 3 to $3\frac{1}{2}$ inches long, the helmet 7–8 lines long, the lip longer, nearly an inch broad, and deeply 3-lobed. Capsules erostrate.

Koondahs. Jerdon. I have never, in any of my excursions, been so fortunate as to meet with this plant, and therefore only know it from specimens.

1419. Pedicularis Zeylanica (Benth.), furfuraceo-pubescent, or rarely nearly glabrous; loosely ramous at the base; branches ascending or erect: leaves petioled, oblong, obtuse, doubly crenate: racemes capitate or elongated: calyx cleft along one side, crestately 2–3-toothed behind: tube of the corolla shortly exserted; helmet incurved, obtuse, erostrate.—Except in the helmet, this species is very nearly allied to P. carnosa, in that it is beaked in front, in this obtuse, beakless. This species which is very abundant on the Neilgherries is, when in perfection, a truly beautiful flower. It varies considerably in its habit, growing, as in the instance selected for representation, quite erect, and having very few branches, even at the base, or loosely diffuse without any central stem, only a number of loose, procumbent branches, springing on all sides from the crown to the root, each ascending towards the apex and terminating in a more or less elongated raceme of beautiful pink flowers. It commences flowering in June and July and continues until the end of the rains.

Orobanchaceæ.

While engaged in naming the following species I found it necessary to examine, so far as my materials permitted, the structure of the whole order. A summary of the results arrived at, I introduce here, in explanation of the modifications in the grouping, I have felt it necessary to adopt as well as to indicate what I conceive to be the limits of the order.

As I understand the order, the parts of which it is made up are held together more by habit than structure, namely, "Herbaceous, leafless plants, growing parasitically on the roots of other species; stems covered with brown or colourless scales." Characters taken from the flowers are variable or common to several other families, those taken from the stamens and style are of a conflicting kind, and so also

are those obtained from the ovary and fruit, but it is on these last that I think the greatest reliance can be placed in grouping the species.

The characters of the order may be thus briefly stated. Calyx tubular, or, as in *Orobanche* and *Æginetia*, wanting, its place being supplied in the former by the bracteoles, and in the latter by a spathe. Corolla more or less irregular, tubular. Stamens didynamous, usually incluse; anthers either perfect with 2 parallel polleniferous cells, or imperfect, one of the cells being sterile or altogether wanting. Ovary superior, 1-celled, or spuriously 2-celled or, rarely, perfectly 2-celled; composed of 2 or 4 or more carpels, usually placed, when two, anterior and posterior to the floral axis, with the placentæ right and left; ovules very numerous. Fruit a capsule; dehiscence loculicidal. Seed small, testa spongy, scrobiculate; embryo minute, at the base of fleshy albumen. Of these characters those derived from the seed, taken in connexion with the habit of the plants will be found most constant. The placentation differs in the different groups and has furnished the basis for the following division of the order into sections or sub-orders. In *Orobanche*, for example, it consists of from 4 to 6 prominent parietal lines, each covered with numerous ovules. In *Phelipæa ramosa* and *Lathræa squamaria* (respectively the types of these genera), the carpels coalesce at the points of junction, but the placentiferous margins remain free, and are afterwards reflected to the right and left, but do not meet in the centre; hence the ovary is only one, or half 2-celled. In *Æginetia* the placenta consists of two intricately lamellated bodies, and in *Oligopholis* of two solid, fleshy ones which, in both cases, nearly fill the whole cavity and are covered on all sides with ovules, but in neither cohere, so as to form a central partition between the 2 carpels. And lastly, in *Hyobanche*, the inflexed portions of the carpels do partially meet in the axis, forming a spuriously 2-celled ovary, but the placentiferous margins still remain free and, being reflexed, form 2 loose placentæ in each cell.

Availing myself of these variations of structure and placentation of the ovary, I propose grouping the order, so far as it is known to me, under the following sub-orders or sections.

I. Orobancheeæ. Ovary of several (?) carpels, 1-celled: placentæ parietal. *Orobanche, Cistanche, Conopholis, Anoplanthus.*

II. Æginetieæ. Ovary of 2 carpels, 1-celled: placentæ parietal large, fleshy, lamellate or solid. *Æginetia, Oligopholis.*

III. Lathræeæ. Ovary of 2 carpels, 1-celled; carpels partially cohering in the parietes, the placentiferous margins remaining free and spreading to the right and left, forming two broad lamellar placentæ. *Phillipæa, Lathræa, Epiphagus.*

IV. Hyobancheeæ. Ovary imperfectly 2-celled, that is, the inflexed carpels only partially meet in the axis, but the placentiferous margins, remaining free and being reflexed, form 2 loose placentæ in each cell. *Hyobanche, Campbellia, Christisonia, Haveya,? Aulaya.?*

The last two genera are doubtfully added to this list, Mr. Bentham having already referred them to *Scrofulariaceæ*, but as the habit and, apparently, the seed are not in unison with the rest of that family their admission into this list may lead to further, and perhaps more accurate scrutiny so as to leave no future doubt of their proper location. If really Orobanchs, they, especially the last, form through *Striga* the transition to *Scrofulariaceæ*, but judging from Sir W. Hooker's analysis of the two genera, the former only, which has two placentæ in each cell, is truly referable to this order, while *Anlaya* passes into the other.

The first section, constituting, I presume, the type of the order, unless I have misunderstood its structure differs widely from the rest in having several carpels, all the others having only two. I am aware that this view is at variance with the received opinions of Botanists, and therefore forbear to urge it beyond calling attention to what, to me, appears to be the true structure of the genera I have referred to it, and which, if confirmed by more extended examination, will, I imagine, lead to its segregation as a distinct order. The second and third of my sections respectively represent in this group *Bignoniaceæ* and *Gesnereaceæ*. The fourth approaches *Scrofulariaceæ*, from which it is kept distinct by its imperfectly 2-celled ovaries and by the placentiferous margins of each carpel remaining distinct, in place of coalescing with its fellow into a single axile placenta. Should further observation prove these sections, which I find of easy application, well founded, generic distinctions will henceforth be more readily obtained; the uniformity of external characters, in the absence of sub-division, causing a deficiency of good distinctive marks by which to define the limits of genera.

The following synopsis of the genera known to me, either from examination of specimens or good figures, may serve to explain my meaning.

I. Orobancheeæ.

1. Orobanche. Calyx wanting or rudimentary, bracteoles dilated at the base, calyciform. Corolla tubular, bilabiate, lips ⅔ lobed. Anthers glabrous, placentæ 4–6, parietal.

2. Cystanche. Calyx bracteolate, tubular, 5-cleft. Corolla tubular, sub-equally 5-lobed. Anthers woolly, placentæ 4, parietal.

3. Conopholis. Calyx bracteolate, sub-spathaceous. Corolla ringent, upper lip large, vaulted, under short, 3-lobed. Anthers pubescent. Placentæ 4, parietal.

4. Anoplanthus. Calyx ebracteolate, 5-cleft. Corolla tubular, arched or bent at the base, equally 5-toothed, or sub-bilabiate. Anthers glabrous. Placentæ 4, parietal.

II. Æginetieæ.

5. Æginetia. Calyx and bracts wanting, their place supplied by a loose spath. Corolla tubular, 5-lobed. Anther cells divaricate, both fertile. Placentæ lamellate.

6. Oligopholis. Calyx tubular, 5-toothed. Corolla tubular, 5-lobed. Anthers 2-celled, one sterile, subulate. Placentæ 2, fleshy, not lamellate.

III. Lathræeæ.

7. Lathræa. Calyx ebracteolate, 4-cleft. Corolla ringent, upper lip entire, under smaller, 3-lobed.

8. Phillipæa. Calyx bracteolate, tubular, 4–5-toothed. Corolla ringent, upper lip 2- under 3-lobed, spreading.

9. Epiphegus. Flowers polygamous. Calyx bracteolate, urceolate, 5-toothed. Corolla bilabiate, upper lip entire, under 3-lobed.

IV. Hyobancheeæ.

10. Hyobanche. Calyx bracteolate, deeply 5-cleft. Corolla ringent, upper lip long, entire, under small, obscurely 3-toothed. Anthers deflex, pendulous, 1-celled!

11. Campbellia. Calyx bracteolate, tubular, 5-toothed. Corolla sub-bilabiate, 5-lobed. Anthers deflex, pendulous, one-celled! opening by a pore at the apex.

12. Christisonia. Calyx tubular, 5-toothed. Corolla infundibuliform, sub-bilabiate. Anthers 2-celled, one sterile, subulate. Placentæ free, revolute.

13. Harveya. Calyx inflato-campanulate, 5-lobed. Corolla tubular, sub-bilabiate, 5-lobed. Anthers 2-celled, one sterile, subulate. Ovary 2-celled, with 2 fleshy placentæ in each.

14. Aulaya. Calyx tubular, 5-cleft. Corolla tubular, 5-lobed. Anthers 2-celled, one sterile, subulate. Ovary 2-celled, with a single axillary, placenta in each. [Obs. Mr. Bentham remarks of this genus, "placentæ in diversis speciebus magis minus ve bilobæ," which seems to indicate that it is correctly referable to this order.]

P. S. After the above was written, I received the 11th Vol. of De Candolle's Prodromus containing the article *Orobanchaceæ* by M. Reuter. On looking over it, perhaps rather hurriedly, I do not observe any thing tending to invalidate the views I have ventured to advance, except with regard to the genera of my section *Orobancheeæ* which, if I rightly understand, he considers have all decarpellary ovaries, while I suppose there are as many carpels as placentæ, each placenta being formed by the union of the edges of 2 carpels the same as occurs in most other ovaries having parietal placentæ. Nor can I see upon what grounds we are to adopt other views with respect to this family. I must certainly admit that it is unusual for the same species and even the same individual to furnish in so many flowers, examples of 4–5 and 6 carpels to the ovary which I find in Orobanche. But I believe it is equally rare to find similar variations in the number of placentæ to each carpel, and for the simple reason that the one is, with very few exceptions, dependent on the other, the carpellary margins only, except in these few instances, being placentiferous. One circumstance, to which he seems to have paid much attention, merits notice, namely, the position of the lobes of the stigma in relation to the floral axis, which he finds right and left in some, anterior and posterior in others, implying that in the former the *placentæ* are anterior and posterior, and right and left in the latter. In *Orobanche* they are right and left, and in *Conopholis* and *Anoplanthus* anterior and posterior. How are these differences to be accounted for? I am unable to say, but their existence goes far to show that, so far as our information on that point of structure yet extends, little benefit is likely to result from its study as an ordinal character: however valuable it may prove as a generic one. The fact, however, of the stigma being simply two-lobed, seems to throw much doubt on the correctness of the views I have been led to take as to the plurality of carpels, but does not altogether invalidate them, as each lobe may be formed from the union of two adjoining carpels, but it seems more in accordance with analogy, as regards the rest of the order, to suppose that each carpel has two placentæ placed a little within the margin. But that theory will not account for cases, of which I have seen many, in which 5 placentæ occur. Were they constantly in pairs 2–4–6 that explanation might be admitted, but in cases where an odd one occurs, it cannot be accounted for on that principle though easily explained on the principle I have supposed, viz. "plurality of carpels with the placentæ formed in the usual way along the line of union of each pair." This view is further supported by the fact, that I have occasionally observed a tendency to dilatation, or spreading to the right and left, of the margins of the placentæ in Orobanche. But on this question further observation is required, and for the present enough has been said to call attention to the subject.

1420. Cystanche lutea (Link and Hoffmans. *C. tubulosa*, R. W. in Icon. *Philipæa lutea*, Desf.), scape simple, fleshy, sulcated: bracts opaque, ovato-lanceolate, substriated, longer than the calyx: calyx campanulate, lobes ovate, obtuse: corolla narrow at the base, tubular, arched outwards, dilated at the throat, 5-cleft, lobes ovato-rotundate equal, spreading: stamens hairy at the base: anthers large, obsolately mucronate: stigma capitate, emarginate. (Reuter in D. C. Prod.)

"Scape furrowed, thick and fleshy, bracts elongated, acuminate, amplexicaul at the base and, like the shorter bracteoles, downy, translucent at the edges, and sometimes obscurely toothed. Calyx $\frac{1}{4}$ the length of the corolla, its segments rounded, often obscurely crenate. Corolla bent outwards from the middle, *lower-half* tubular, erect, *upper-half* bell-shaped, inclining outwards; throat very wide with two dimples anteriorly; limb slightly 5-cleft, with equal, rounded, turned down lobes; bottom of the tube with the insertions of the stamens densely woolly. Anthers apiculate, all cohering by the woolly hairs fringing the pollen clefts. Style with a clubbed, compressed, nodding tip and a somewhat bilobed stigmatic surface.

"Scind, in loose, sandy soil, on roots of Salsolas—grasses, and Calotropis Hamiltonii, &c. *P. calotropidis*, (Edgeworth)?

"A fine species, varying from 6 inches to 6 feet, from the point of attachment to the apex of spike. General colour yellow with an occasional tinge of purple: colour of flowers generally yellow, with a tinge of purple before expansion; or sometimes muslin white with two yellow streaks. Carpels each with two biseriate placentæ, when a third is present (which is rare) it is situated anteriorly. Capsule about an inch long with numerous seed, like coarse gunpowder." Stocks' MSS. description which accompanied the drawing of Fig. 1420–*bis*.

A comparison of the placentation shown in transverse sections of the ovary of this, with that of No. 1353, which presents a placentary structure, quite in

accordance with that of ***Phelipæa ramosa,*** the typical species of the genus, will at once explain my reasons for restoring the genus *Cystanche,* as distinct from *Phelipæa,* to its place in the system. Mr. Stocks considers the ovary of this plant dicarpillary, to me it seems to confirm the view above expressed that it is 4-carpillary, but may have more, just as a 4-merous species may occasionally present a 5-merous flower. My draftsman has stumbled on such a one. Mr. Stocks' presents the normal form, and mine the abnormal, and probably that of mine had a 5-carpillary ovary. The want of hairs in the bottom of the tube of the corolla of my figure is, I suspect, attributable to an oversight of the draftsman, which has induced me to change the name first given *(C. tubulosa),* to that given by Mr. Stocks, but still not without some degree of hesitation, as it appears possible, that, if both are really species, which I doubt, both are here represented. It is to be hoped Mr. S. will be able to clear up the doubt that now hangs over *C. tubulosa,* as distinct from *C. lutea,* which the written characters scarcely suffice to distinguish.

After my own figure was printed off, I received from Mr. Stocks the above description and the beautiful drawing of No. 1420–*bis.* The latter being made from recent plants, and giving a much better idea of the appearance and habit of the plant than one taken from a dried specimen, I have also printed. The group of young plants, Fig. 11, is an interesting addition to the analysis. The differences of aspect of the two specimens is striking, but are, I believe, variations only. The want of hairs in the base of the corolla of my drawing I have since found to originate in an oversight of the draftsman.

1421. Æginetia pedunculata (Wall.), glabrous, scape simple, furnished with a few attenuated scales; floral scales triangular: calyx spathaceo-monophyllous, split on the anterior side; corolla equalling the calyx, tube inflated, limb 5-cleft, lobes about equal, reniform, denticulate: filaments glabrous: stigma large, cordato-peltate.—Peduncles 1-flowered, equalling or exceeding the scape. Flowers large, tube yellow, limb obscurely violet, calyx filled with a viscid fluid. Stamens incluse. Capsule ovate.

Courtallum, in Bamboo jungles, flowering August and September.

Oligopholis. (R. W.)

Generic Character. Hermaphrodite, ebracteolate. Calyx tubular, 5-toothed. Corolla infundibuliform, subringent, 5-lobed. Stamens didynamous, incluse; anthers 2-celled, 1 fertile; the other sterile, subulate. Ovary one-celled, embraced at the base by a cup-shaped disk: placentæ 2, large, fleshy, nearly filling the whole cavity, covered on all sides with minute ovules; style sub-clavate; stigma peltate Capsule—seed.

Herbaceous, parasitical plants, with erect, slightly ramous, nearly naked stems, only furnished with a few scales (whence the name), peduncles axillary, longer than the floral scale, ebracteolate. Corolla tubular, ventricose above, more than twice the length of the calyx. Filaments thickened below with a ring of hairs at the base.

1422. Oligolepis tubulosa. (R. W.)

Courtallum, parasitic on roots of Bamboos? flowering September.

Erect, or ascending, glabrous plants, from 6 to 10 inches high, bearing towards the apex a few, longish, peduncled flowers. The original drawing, taken from fresh specimens not having been coloured, I can scarcely recall at this distance of time the colour of the flowers, but believe it was purple.

1423. Christisonia subacaulis (Gardner), stems very short, thick, scaly: peduncles 3–4, shorter than the scales, 1-flowered: corolla 2–2½ inches long, tube slender, shortly exserted beyond the calyx; thin, expanding into a large sub-bilabiate, 5-lobed limb: stamens 4, glabrous: anthers glabrous, cells calcarate. Stigma capitate?" Benth. scrofed Ind.

The figure seems to agree with this description except the anthers which, since sending the drawing to the Lithographer, I find are incorrectly represented in the figure, the cells of the upper pair being distinct, one apparently sterile and calcarate, the other fertile, the lower pair 2-celled as here represented; in short the draftsman had succeeded in extracting one anther of the inferior pair from the aglutinated mass, and has taken the liberty of representing all the rest the same, and therefore far from the truth, a liberty only excusable on the ground of the specimens being few and not very well dried. I suspect, when better known, this will form the type of a genus. The large, loose calyx, want of bracteoles, and peculiar anthers combine to justify this conclusion. I at first considered it a true Phelipæa.

Campbellia. (R. W.)

Calyx tubular, 5-lobed, bibracteolate. Corolla sub-infundibuliform, bilabiate; the upper lip more or less deeply 2-lobed, the under 3-lobed. Stamens didynamous, incluse; anthers 1-celled, pendulous, opening by a pore at the apex. Ovary spuriously 2-celled at the base, 1-celled at the apex; carpels deeply inflexed, placentiferous margins revolute; style simple; stigma capitate. Capsule, like the ovary, imperfectly 2-celled. Seed oblong; testa loose, reticulate, produced at the ends into a wing; albumen copious; embryo minute.

Herbaceous plants, parasitic on the roots of others. Stems simple, scaly. Flowers axillary, peduncled, aggregated towards the apex of the stem, each furnished with two bracteols. Stamens shorter than the corolla. Style hooked at the apex; stigma clavate, drooping.

This genus is very nearly allied to *Hyobanche* from which it is principally distinguished by the form of the corolla. It is nearly allied to *Christisonia,* from which it is separated by its 1-celled anthers and bracteolate flowers, a character not unworthy of notice, though of only secondary rank.

I have named it in honor of Dr. William H. Campbell, l.l.d., the first Secretary of the Edinburgh Botanical Society, and his brother Captain J. Campbell, of the Madras Establishment, long an active collector of plants for the use of his brother and other Botanical friends.

1424. Campbellia aurantiaca (R. W.), stems simple, covered on all sides with closely appressed, sub-orbicular scales; floral ones or bracts broad, obovate, bracteoles lanceolate, entire: flowers sessile, stipulate: corolla scarcely exceeding the calyx, pubescent within, five-lobed: stamens scarcely didy-

namous, filaments pilose: style the length of the stamens, pilose, stigma clavate.

Neilgherries, in a small clump of jungle by the road side near Nedawuttim, flowering in August and September. As seen growing, this is a peculiar looking plant, the deep orange coloured tops only appearing above ground. This colour is derived from the bracts and calyx, the corolla being pale yellow, nearly white. One of the anthers in the dissected flower is represented 2-celled, this is, I believe, an error of the artist, as I have, since the plate was printed, examined recent specimens, and find them 1-celled, as shown in the detached figures of the anthers, drawn at the same time with the rest of the picture.

1425. Campbellia cytinoides (R. W. *Phelipœa? cytinoides*, Reuter in D. C. Prod. 10, p. 14. *Christisonia Neilgherriea*, Gardner, Cal. Journal, v. 8, p. 157), erect, glabrous, covered with appressed, broad, ovate, obtuse scales: flowers pedicelled: bracts suborbicular, shorter than the lanceolate bracteoles; calyx tubular, irregularly 5–7-toothed: corolla 2-lipped; upper lip emarginate, under broadly 3-lobed: stamens length of the corolla; filaments glabrous; anthers deflexed, 1-celled: style hooked at the apex, stigma clavate: testa of the seed reticulato-scrobiculate.

Neilgherries, parasitic on roots of Strobilanthi; frequent in woods near Pycarrah, flowering in May. Flowers bright yellow. This, though in general appearance like the preceding, is certainly distinct. The peduncles, which at first are short, elongate as the fruit advances towards maturity.

1426. Christisonia calcarata (R. W.), glabrous, erect, scaly, scales ovate, not imbricating, more numerous towards the base: flowers long, peduncled, ebracteolate: calyx tubular, five-lobed, limb persistent: corolla tubular, 2-lipped; upper one longer, emarginate, under 3-lobed, tube externally pilose: stamens didynamous, incluse, filaments pubescent at the base; anthers 2-celled; cells divaricated, the lower one sterile, prolonged into a conical spur: style filiform, exserted: stigma 2-lobed; lobes right and left of the axis: capsule globose, crowned by the persistent limb of the calyx. Flowers blue or purple.

Tannah, near Bombay. J. S. Law, Esq. I am indebted to Mr. Law for the specimens from which the drawing was taken. It seems not improbable that some parts of the analysis may be found faulty, as they are difficult plants to dissect from dried specimens.

The upper anthers of C. subaculis somewhat resemble these, and I should not be surprised to learn that here also the lower pair will be found to differ somewhat from the upper.

1427. Christisonia Lawii (R. W.), stemless, or nearly so, base of the sub-sessile flowers ebracteolate, embraced by a few loose scales: calyx tubular, 5-toothed: corolla tubular, more than twice the length of the calyx, limb 5-cleft, lobes nearly equal, sub-orbicular: stamens didynamous, lower pair much shorter; anthers 2-celled, one of the cells sterile, subulate, the other ovate, pointed: style exceeding the stamens; stigma bilamellate, lobes right and left of the axis.—Flowers bluish purple.

Tannah, near Bombay, J. S. Law, Esq., to whom also I am indebted for the drawing, from which my figure is taken, with the exception of the analysis. I suspect the section of the ovary is not quite correct, and think it should more resemble that of the preceding plate.

This species in habit seems nearly allied to *C. subacaulis*, but is, I believe, quite a distinct species.

The want of bracteoles in this genus, seems nearly constant throughout, as I observe they are only once noticed in any of Mr. Gardner's genuine species, and I have only once seen them. As the generic characters taken from these organs are as yet rarely permitted to occupy a higher than second or even third rank, I the less regret being constrained, in this instance, contrary to the course I have followed with the other genera of the order, to exclude them from the generic character, owing to some uncertainty, as to their constancy. It seems probable, should the genus be much enlarged by future discoveries, their absence or presence will furnish excellent sectional characters.

1428. Orthosiphon bracteatus (R. W.), suffruticose, erect, ramous, tomentose towards the ends of the branches: leaves sessile, obovate, oblong, obtuse, crenato-serrated, pubescent on both sides; venoso-reticulate beneath: racemes terminal, short, verticellasters about 3-flowered, covered before expansion with a large foliaceous, deciduous bract: tube of the corolla about thrice the length of the calyx; upper lip much larger than the lower, somewhat 3-lobed, middle one emarginate; under lip entire, inflexed at the point.

Shevagherry Hills, flowering August and September. This, if truly a species of *Orthosiphon*, is very distinct from all the others I have seen, though I do not think the differences of generic value.

1429. Plectranthus Wightii (Benth.), herbaceous, erect, ramous: leaves petioled, broadly ovate or rounded, acuminate, cordate at the base, smooth on both sides or pubescent; the inferior floral ones conformable; the superior ones and bracts membranaceous, rotundato-spathulate, shorter than the peduncles and pedicels: panicles very ramous, many-flowered: fructiferous calyx declinate, oblong, incurved, striated, glabrous, with the mouth obliquely bilabiate: the teeth nearly equal, ovate: stamens exserted.—Leaves from one to two inches long or, on young, luxuriant plants, larger, usually longish, acuminate; serratures obtuse or acute: panicles large, loose: flowers white, speckled with red points, tube of the corolla about as wide, as long, the upper lip ascending, 4-lobed, each lobe marked with two red spots at the base, the inferior narrower, longer, concave. Stamens free, exserted.

Neilgherries and Pulney mountains, frequent, flowering during the autumnal months. The small size of the flowers prevents this from becoming the garden favourite, which it deserves to be. The specimen selected by the draftsman is rather too young to furnish a correct idea of the specific characters. It is distinguished by Mr. Bentham from *P. scrophularioides*, on the one side, and *P. striatus*, on the other, but with an extensive series of specimens before me, from different stations, and authentic specimens of all the three species to compare, I find I cannot unravel them.

1430. Plectranthus macræi (Benth.), herbace-

ous, ramous, rufo-villous: leaves short, petioled; ovate, acute, dentate, rotund at the base, softly pubescent on both sides; the floral ones conformable: panicles ramous, many-flowered: calyx declinate, oblong, sub-bilabiate, teeth sub-equal, ovate; the fructiferous ones incurved, striated, villous: corolla thrice the length of the calyx; tube gibbous above the base, abruptly bent at the middle: anthers 2-celled.—Whole plant clothed with reddish, soft, pubescence: leaves soft, sometimes entire, sometimes irregularly toothed. Cymes loose, axillary, opposite, common peduncle, villous: filaments free: inferior lip of the corolla elongated, longer than the stamens.

Neilgherries, frequent in low, moist grounds, and on the banks of ditches. Flowers very numerous, pale blue, much enveloped among the pubescence which clothes the racemose cymes. In such situations this is a rank growing plant, often attaining 5–6 feet in height.

Between *P. coetsa* and *P. Macræi*, the difference seems slight, if indeed they are specifically distinct. I have referred the plant figured to the latter on account of its leaves being rounded, not tapering at the base, but possibly it may be neither, though I think it both.

1431 Coleus spicatus (Bentham), stem procumbent at the base, branches ascending, pilose: leaves petioled, obovate, fleshy, narrowing at the base; floral ones membranaceous, concave, covering the flowers, afterwards deciduous: spikes simple, elongated, dense; verticellasters 6–10-flowered, approximated: fructiferous calyx deflexed, hispid; throat villous within; the upper tooth rounded, decurrent, inferior ones lanceolate, acute, equal, tube of the corolla defract; inferior lip stipulate, cymbiform.—Leaves fleshy, 1 to 2 inches long, entire or slightly crenate near the apex, pubescent on both sides. Spikes 4–8 inches long, all the verticellasters approximated: floral leaves broad, acute, ciliate, otherwise glabrous.

Coimbatore district, frequent in very arid soil, under the shade of low, stunted jungle, flowering during the cool months and ripening its seed in February and March. It exhales a strong and peculiarly heavy, disagreeable odour.

1432. Coleus barbatus (Bentham), stem shrubby at the base, tomentosely hispid: leaves petioled, ovate, crenate, narrower at the base; softly tomentose, the younger ones strigoso-hispid; floral ones membranaceous, broadly ovate, acuminate, comose on the ends of the branches, afterwards deciduous: racemes simple, verticellasters 6-flowered, distant; fructiferous calyx deflexed, hispid, throat villous within, upper tooth ovato-decurrent, inferior ones lanceolate, acute, sub-equal: tube of the corolla defract, inferior lip large, stipitate, cymbiform.

Neilgherries, frequent, and I believe to be met with in flower at all seasons. It is a luxuriant growing plant, and rendered conspicuous by the number and size of its flowers, but still it has a common, weed-like, unornamental look.

1433. Coleus Wightii (Bentham), stem pubescent: leaves petioled, ovate, crenated, rounded or sub-cordate at the base, thick, rugose, hispid on both sides, the floral ones deciduous: the simple, terminal, panicle-like racemes, the lax, cyme-like verticellasters, with a common peduncle and its branches elongated on each side, the floral calyx longer than the pedicels, and also the declinate fructiferous ones, all pubescent: upper lip of the calyx ovate, flattish, the inferior ones lanceolate, acute, equal, scarcely united at the base: throat of the corolla large, the lower lip nearly 4 times the length of the upper.

Neilgherries, in moist soil, about the out-skirts of woods, not unfrequent. There are several species with which this may be easily confounded, the best distinguishing marks are, the pubescent racemes, and large lower lip of the corolla.

1434. Anisochilus dysophylloides (Bentham), stem procumbent at the base, branches ascending, sericeo-villous: leaves sub-sessile, from oblong, lanceolate, obtuse, to sub-spathulate, entire, narrow at the base: spikes axillary and terminal, peduncled: inferior lip of the calyx minute, truncated, upper one deflexed.—Every where clothed with soft, silky pubescence, leaves from an inch to $1\frac{1}{2}$ long, by about $\frac{1}{2}$ an inch broad, tapering at the base: flowering spikes cylindrical, about the thickness of a quill, densely covered with minute flowers; bracts lanceolate, acute, pubescent, deciduous, as long as the obscurely 5-toothed calyx. Corolla purplish, scarcely exceeding the calyx, 5-cleft, the lower lobe a little larger. Stamens shorter than the limb of the corolla, scarcely exserted. Fructiferous calyx inflated, lower lip entire, upper one obtuse, deflexed.

Neilgherries, on the Eastern slopes, near Coonoor, flowering during the cool season, January and February.

1435. Anisochilus purpureum (R. W.), stem procumbent at the base, branches ascending or erect, sericeo-villous: leaves petioled, obovato-spathulate, obtuse or sub-orbicular, entire, fleshy: spikes axillary and terminal, peduncled: bracts lanceolate, acute, pilose, about the length of the calyx: flowers purple, corolla marcesent, tubular, 2-lipped; upper 4-lobed, erect, under entire, deflexed: stamens exserted: under lip of the fructiferous calyx minute, upper larger, deflexed, 3-toothed.

Neilgherries, on the eastern slopes, about Coonoor, on large stones covered with vegetable earth, flowering February and March.

The specimen selected by the draftsman is defective, as not showing the general habit of the species, which is usually, but not always, procumbent, with ascending or erect branches. The specimen is evidently an erect branch of a very luxuriant plant. This is perhaps too nearly allied to the following, but I have kept them distinct, partly on account of the difference of colour of the flowers, purple in this, white in that, and partly on account of the unusual feature of the marcesent corolla in this, deciduous in the other.

1436. Anisochilus albidum (R. W.), stems decumbent, branches ascending, sericeo-villous: leaves sessile, obovate, spathulate, tapering at the base: spikes axillary and terminal: bracts lanceolate, acute, about the length of the calyx: flowers white, corolla deciduous, tubular, 2-lipped, 4 and 1, tube pilose within: stamens exserted, upper lip of the fructiferous calyx deflexed, 3-toothed, teeth reflexed at the point.

Neilgherries, about Coonoor and Kaitie, flowering

February and March, flowers white or pale straw colour.

This plant so nearly resembles the preceding, that it is with considerable hesitation I describe it as a distinct species, though I believe it to be so. The herbarium marks are very unsatisfactory, but recent plants appear amply distinct.

1437. Anisochilus suffruticosum (R. W.), suffruticose, erect, ramous, young shoots and leaves densely villous: leaves short, petioled, ovate, lanceolate, prominently veined beneath, when dry deeply reticulated between the veins: spikes numerous, long, peduncled, congested on the ends of the branches: corolla tubular, deflexed from the base, 2-lipped; upper lip 3-lobed, the middle lobe larger, emarginate, under entire, obtuse: stamens the length of the corolla: under lip of the fructiferous calyx minute, upper much larger, entire, round at the apex, deflexed.

Sisparah, on the western slopes of the Neilgherries, on rocky clifts, among long grass, flowering December and January. Stems apparently annual, from two to three feet high, but the roots seem perennial, as old, withered plants were noticed with young shoots at the base.

1438. Lavandula (Chætostachys) Burmanni (Bentham), delicately pubescent, with leafy stems: leaves bipinnatifid, segments linear, entire, the floral ones membranaceous, dilated at the base, ending in a long, setaceous acumen: spikes denticulate: flowers solitary, alternate, approximated.

Copper mountains, Bellary, Mysore, Coorg.

A herbaceous plant, apparently annual, from 1 to 3 feet high. Stems 4-sided, somewhat hispid, very leafy towards the base, sparingly so above. Spikes terminal, ramous; floral leaves furnished with a long, bristly acumen. Calyx striated, afterwards somewhat ventricose. Corolla slender, longer than the calyx, 2-lipped, the upper one emarginate, the lower 3-lobed.

1439. Lavandula (ch.) Lawii (R. W.), herbaceous, pubescent: stems erect, leafy at the base, 4-sided: leaves obovate, pinnatifid, divisions unequally serrated, often broader and 3-lobed at the apex; floral ones dilated at the base, striated, pointed: spikes terminal, simple, compact, flowers alternate solitary.

"Hills at Satara, flowering in November." Law.

This is nearly allied to the preceding, but is evidently a distinct species, as at once shown by the pinnatifid, not bipinnatifid foliage, the very compact spikes, and the broader, scarcely acuminated floral leaves; the calyx and corolla coincide.

1440. Pogostemon Heyneanum (Bentham), stem ascending, pubescent: leaves glabrous, or narrowed at the base, irregularly crenate: verticellasters subsecund, interruptedly spicate: spikes panicled: bracts ovate, slenderly nerved, about the length of the calyx: calyx pubescent, teeth ovate: filaments bearded.

Neilgherries, frequent about Kotergherry and elsewhere, about that zone of elevation, flowering during the rainy season, or from June until November, as well as at other times.

1441. Pogostemon rotundatum (Benth.), villous, stem ascending: leaves roundish, doubly crenate, truncated or cordate at the base; the upper floral ones shorter than the calyx: racemes simple, verticillasters equal, distinct (sub-remotis): bracts linear subulate: teeth of the calyx lanceolate villous: filaments bearded.

Neilgherries, frequent about the outskirts of woods, and in neglected, broken ground, flowering most part of the year, but in greatest perfection during March and April.

A low growing plant, somewhat spreading at the base, afterwards ascending, leaves softly villous, racemes 2 to 6 inches long, compact towards the apex, flowers small, white.

1442. Pogostemon hirsutum (Bentham), clothed with adpressed hairs; stem ascending: leaves petioled, ovate, acuminate, serrated, rounded, at the base; floral ones shorter than the calyx: racemes simple, verticellasters equal, distinct; bracts linear, subulate: teeth of the calyx lanceolate, acute, hispid: filaments shortly exserted, bearded.

Neilgherries. The specimen selected for representation, seems to be a luxuriant form, greatly exceeding in size my specimens, a circumstance which for some time led me to doubt whether it was the true plant, the more so as the original specimens of the species are from Neuera Ellia in Ceylon. The difference however of locality and even the season of the year, at which the specimens were gathered, might cause considerable difference in appearance, the consideration of which circumstances led me to adopt the name here given, in preference to viewing this as a new species, not having an authentic specimen to compare.

1443. Pogostemon speciosum (Bentham), piloso-hispid; stem erect: leaves broad, ovate, cordate at the base, doubly crenate: racemes simple: verticellasters terete, loosely approximated: bracts minute: teeth of the tubular, nearly glabrous, calyx subulate: filaments naked.

Common about the outskirts of woods, on the Neilgherries, usually in moist soil, flowering during the rainy and cold season.

1444. Dysophylla tetraphylla (R. W.) densely pilose, stem ascending, simple or sparingly branched: leaves quaternate, sessile, linear, subulate, entire, revolute on the edges; floral ones lanceolato-spathulate, pubescent, about the length of the flowers: spikes elongated: calyx pubescent, teeth short, pointed: filaments long, exserted portion bearded.

Station uncertain, but I think Malabar.

This species approaches *D. crassifolea*, but seems quite distinct. It is represented glabrous, which is far from being the case in the original, but I have so often suffered from the uncertainty of lithography in this country, that I am constrained to follow that course, only showing that part of the character on a small portion, and unfortunately in this case a portion of the stem has not been so shown with the leaves.

1445. Dysophylla auricularia (Blume), clothed with soft, spreading hairs; stems procumbent or ascending: leaves opposite, sub-sessile, ovate, oblong, coarsely serrated; floral ones ovato-lanceolate, about the length of the flowers: spikes very dense:

the ovate, villous teeth of the calyx connivent after flowering.

Neilgherries, frequent: flowering during the rainy and cool season.

1446. MICROMERIA BIFLORA (Bentham), suffruticose, very ramous, cæspitose, branches ascending, pubescent or pilose: leaves sessile, ovate, acute, flat or revolute on the edges, rigid, glabrous, subcordate at the base; the superior ones shorter than the flowers: verticillasters loose, few-flowered: braits equalling the pedicels: calices pedicelled, sub-secund, delicately pubescent, or slightly pilose; throat villous within.

Very common on the Neilgherries, and always in flower.

A low growing, very branchy plant, forming dense tufts of matted branches, from 4 to 6 or 8 inches long, the extremities thickly covered with its small, ovate, translucent, dotted leaves, from among which its numerous, pale reddish, blue or pink flowers project. Calyx strongly ribbed; segments acute. Corolla nearly twice the length of the calyx, obscurely 2-lipped, the upper one emarginate, scarcely larger than the three lobes of the lower. Stamens incluse, anther cells devaricated. Achænia seated in a cup-shaped disk.

1447. MELISSA UMBROSA (Bieberst), herbaceous, diffuse, pubescent or villous: leaves petioled, ovate, serrato-crenate, rounded at the base: verticillasters equal, globose, many-flowered: bracts minute, or the exterior ones subulate, about half the length of the calyx.

Common in moist woods all over the Neilgherries and Pulney mountains.

A diffuse plant, the branches procumbent at the base, afterwards ascending: leaves dark green above, paler beneath, flowers pink coloured.

This plant has a very extended geographical range, extending from Europe to Ceylon. In tropical countries confined to the higher alpine ranges.

1448. PRUNELLA VULGARIS (Linn), leaves petioled, ovate or oblong, entire, dentate, or inciso-pinnatifid: teeth of the upper lip of the calyx truncated, aristate, or sub-muticous, or rarely sub-lanceolate: corolla from a half to twice as long as the calyx.

A very common plant by road sides, and in pastures on the Neilgherries.

This, like the preceding, is a very generally distributed plant, being, in the language of Mr. Bentham, found "fere in toto orbe terrarum," and is introduced here as a rare example of a plant so universally diffused.

1449. SCUTELLARIA VIOLACEA (Heyne), stem erect or ascending, pubescent: leaves petioled, cordato-ovate, crenate; somewhat hispid above, pubescent or nearly glabrous beneath; the floral ones sessile, ovate, shorter than the pedicels: racemes lax, simple: flowers opposite, secund.

Neilgherries, not unfrequent in shady, damp woods, generally to be met with in flower, but most abundant and in greatest perfection during the autumnal months.

The leaves have often a purplish colour beneath, the flowers white, or with a tinge of rose colour. Whole plant rarely exceeding from 12 to 18 inches in length.

1450. SCUTELLARIA RIVULARIS (Wall.), glabrous, procumbent at the base; branches ascending, simple: lower leaves petiolate, ovato-roundish, or like the middle ones ovato-lanceolate, obtuse, entire, or crenate; broader and cordate at the base; the upper and floral ones smaller, narrow at the base: flowers opposite, secund, sub-racemose: calyx and corolla glabrous.

Neilgherries, in moist pastures near streams. Frequent near the old Tappal station between Pycarrah and Neddawuttum.

A low growing, diffuse plant, but little conspicuous, to any but the botanical eye, among the grass and weeds among which it is usually found. Flowers white, flowering during the rainy months.

1451. LEUCAS (HEMISTOMA) URTICÆFOLIA (Brown), herbaceous, slenderly whitish tomentose: verticillasters many-flowered, globose: calyces somewhat villous, membranaceous: mouth oblique, prolonged below, cleft above; teeth 8–10, very short, setaceous.

A common weed about hedge rows and neglected places in Coimbatore, flowering during December and January. Herbaceous, from 1 to 2 feet high, erect, ramous; stems and leaves of a pale whitish hue, from being clothed with white pubescence. Flowers white, small, forming numerous dense heads all along the branches. It seems scarcely distinct from *L. indica*, a Madagascar plant.

1452. LEUCAS (ASTRADON) LANCEÆFOLIA (Desfont.), stem erect, reddish, tomentose: leaves oblong, lanceolate, entire, green, pubescent above; whitish, tomentoso-pubescent beneath: bracts as long as the calyx: calyx rufo-villous, mouth truncated, pubescent, teeth very short, and like the bracts rigidly mucronulate.

Neilgherries, on the skirts of woods and clumps of jungle, often from 4 to 8 feet or more in height, and very ramous.

In its general aspect this is a striking plant, forming great masses of vegetation, distinguished by the deep green of its leaves, and the rusty colour of its inflorescence, flowers white, the upper lip thickly covered with white hairs. Flowering during the autumnal months, in great profusion.

1453. LEUCAS (ASTRODON) TERNIFOLIA (Desfont.), stem woody at the base, branches densely tomentose: leaves ternately verticilled, sessile, oblong, lanceolate, entire, silky white on both sides, but most beneath: bracts linear, subulate: calyx silky, mouth truncated, villous, teeth very short, spreading.

Common all over the Neilgherries, but most abundant about Kotergherry. On a comparison of numerous specimens, I find no permanent difference between this and *L. helianthemifolia*, ternate and opposite leaves, being I may say general, ternate below and, on large full grown plants, opposite above. It is at once distinguished from all the other Neilgherry species, by the copious, white, silky hair with which it is every where covered. It varies in height from 1 to 2 feet.

1454. LEUCAS (ASTRODON) SUFFRUTICOSA (Benth.), branches rufo-villous, leafy at the base: leaves sessile, oblong, lanceolate or linear, entire, green, hispid above, whitish tomentose beneath: bracts subulate: calyx rufo-villous, mouth truncated, teeth short, spreading.

Common in pastures on the Neilgherries.

A low plant, from 8 to 12 inches high, readily distinguished by the leafy base and long, rusty-coloured, almost naked branches, ending in 1 or 2 capitate verticillasters. Flowering during the autumnal months.

1455. LEUCAS (ASTRODON) ROSMARINIFOLIA (Benth.), suffruticose, branches adpressed, villous: leaves sessile, linear, entire, scabro-hirtous above, whitish, tomentose beneath: bracts lanceolate, linear: calyx villous, mouth truncated, villous, teeth very short, scarcely spreading.

Neilgherries, in arid soil. Very abundant by the road side, on the shoulder of the hill above Kaitie pass, flowering at nearly all seasons, but in greatest perfection about the end of the year.

1456. GOMPHOSTEMMA HEYNEANUM (Wall.), stem erect: leaves elliptico-ovate, rugous, above softly, beneath densely floccoso-tomentose: verticillasters congested into a terminal spike, or the lower ones somewhat remote, sub-axillary; floral leaves bract-like, broad, ovate, longer than the calyx: calyx campanulate, softly tomentose, teeth ovate, lanceolate, scarcely shorter than the corolla.

Walliar, among bushes in the Bungalow compound, abundant, flowering in July and August.

From 2 to 4 feet high, flowers bluish, with a purple tinge.

1457. GOMPHOSTEMMA OBLONGUM (Wall.), stem erect: leaves oblong, elliptic, rugous, hispidulous above, densely tomentose beneath; the floral ones conformable: verticillasters axillary, remote, few-flowered: calyx campanulate, tomentose, with long, linear, lanceolate, acute teeth: corolla thrice the length of the calyx.

Courtallum.

The original specimens of this species are from Burmah, and possibly this may not be that plant but the character, so far as it goes, agrees so well, that I cannot venture to consider it a new species, merely because the serration of the leaves is not mentioned in the character, the more so, as that is equally overlooked in the definition of the preceding which has them serrato-crenate. It agrees well with the character generally of *G. eriocarpum*, but has glabrous achænia; it may however be a variety of that plant, which is from the same station.

1458. TEUCRIUM TOMENTOSUM (Heyne), suffruticose, erect, branches tomentoso-pubescent: leaves ovate, rounded at the base, villous above; tomentoso-pubescent, whitish beneath, or rarely sub-glabrous: racemes paniculato-ramous: calyx declinate, pilose, bilabiate, the upper tooth broadest.

Neilgherries, abundant on the hill behind Kelso Cottage, in poor, arid soil. Flowering after the rains.

A sufficiently conspicuous plant, from the almost naked, sterile soils in which it luxuriates, attaining in such places, from 1 to 2 feet in height and, under the shade of trees, is even higher than that. The leaves are of a pale green colour, and acquire a whitish hue from the white pubescence with which they are clothed, flowers pale rose colour, or sometimes nearly white.

1459. ANTERRHINUM GLAUCUM (Stocks' MSS.), roots perennial, stems ascending, puberulous: leaves succulent, elliptical or ovate, entire, usually attenuated into the petiol, sub-mucronate at the apex, slightly pubescent on both sides: flowers axillary, peduncle about the length of the petiol, at length deflexed: segments of the calyx very unequal, upper one broadest: corolla ecalcarate: capsule oblique, globose, shorter than the enlarged calyx; anterior cell dehiscent, polyspermous, posterior smaller, compressed, 3–4-seeded: seed obconical, truncated at both ends, longitudinally 5-angled; angles transversely furrowed. Stocks' MSS.

Rocks in Scinde.

A smooth looking, glaucous plant, six inches to a foot high, with succulent, brittle leaves. The leaves are variable in shape, being sometimes sub-spathulate, and have an unpleasant smell. Upper sepal cordato-ovate, wrapping over the others, lateral sepals lanceolate, a little narrower than the inferior ones. Corolla $\frac{1}{2}$ an inch long, of a dingy white, with purple veins. Capsule size of a garden pea, with ruptile dehiscence. Stocks.

1460. PERONEMA CANESCENS (Jack. Mal. Miscel.). Malacca, Griffith—Sumatra, Jack.

"A large tree, wood hard and tenaceous. Leaves opposite, pinnated, nearly 2 feet long, leaflets 7–9, alternate or sub-opposite, lanceolate, acute, somewhat recurved, entire, glabrous above; whitish and reticulately veined beneath, 8–9 inches long; petiols winged, finely tomentose; wings decurrent from the insertion of the leaves. Panicle large, composed of opposite cymes, delicately tomentose; cymes trichotomous. Bracts narrow, acute. Flowers inconspicuous white, tube of the corolla scarcely longer than the calyx." Jack.

Having obtained a specimen of this little known plant, I have taken advantage of the circumstance to endeavour to make it better known. The plant figured, though from a new station, seems to correspond sufficiently with the above description to authorize its being considered the same species.

1461. BOUCHEA (RHAGOCARPUM) MARRUBIIFOLIA (Schauer), dichotomous, cano-villous, branches roundish; leaves ovate, sub-truncated at the base, slightly prolonged into the petiol, coarsely serrato-dentate, reticulately rugous: spikes lateral and terminal, often very long, slender, loosely flowered: bracts linear, subulate, about twice the length of the calyx: calyx shortly toothed: capsule obtuse, incluse. —Leaves about an inch broad, petiols about $\frac{1}{2}$ an inch, beneath prominently reticulated, teeth broad, obtusely angled, acute. Calyx narrow, about 3 lines long, teeth acute, and like the herbaceous costæ and scariose margins of the bracts, villous. Tube of the corolla scarcely twice the length of the calyx; limb small, capsule a line and half long, obtuse, nigrescent, cocci half round, striated, areolate at the apex. Schauer in D. C. Prod. 11–558.

Scinde. Stocks. I am indebted to Mr. Stocks for the drawing and specimens of this plant, which had not previously been figured.

1462. BOUCHEA (CHASCANUM) HYDERABADENSIS (Walpers), suffruticose, sparingly pubescent, branches obsoletely 4-angled: leaves ovato-elliptical, cuneately narrowing into the petiol, acutely and coarsely serrated, glaucous beneath: spikes terminal, peduncled; pedicels short, minutely bracteolate: bracts

lanceolato-subulate, margin membranaceous, roughly ciliate, two or three times shorter than the calyx: calyx plicately five-angled, truncated with five subulate, unequal teeth: corolla large: capsule the length of the calyx, liner compressed at the apex, smooth.

Serramallie hills, near Dindigul, Mysore, in shady jungles, &c.

I have met with this plant several times in subalpine jungles, but it is far from common; flowers rose coloured, and from the plant usually growing in clumps, sufficiently conspicuous. The fruit in my specimens are not quite mature. The figure represents a healthy plant, it is only when in a state of monstrosity, so far as I have seen, that the character "spicibus digitalibus confertiusculis" becomes applicable.

1463. Lippia (Zapania) nodiflora (Rich.), roughish, with adpressed, biacuminate hairs, stems herbaceous, filiform, ramous, procumbent; rooting at the joints and ascending: leaves cuneato-spathulate, entire at the base, above rounded, obtuse, or sub-acute, equally and sharply serrated, obsoletely veined, flat: peduncles axillary, solitary, filiform, exserted: capitula ovoid, and at length cylindrical: bracts closely embracing the tube of the corolla, equal, obovate or sub-rhombeo-cuneate, mucronato-acuminate or muticous; the upper margin broadish, membranous, glabrous or finely ciliate: calyx two-parted, slightly bicarinate; carinæ puberulous.

In moist soil every where, especially on the banks of streams. This plant is truly cosmopolite within the tropics.

A procumbent, often succulent plant. With minute, white or pale rose coloured flowers, collected into compact heads, which go on lengthening with age, those first opening having passed into seed before the last opens. Calyx translucent, membranous, as long as the tube of the corolla. Capsule ovoid, slightly adhering to the lobes of the calyx, two-seeded. A plant so common, is almost necessarily variable, the specimen however figured may be looked upon as an average form.

1464. Lantana Indica (Roxb.), shrubby, straight, 4-sided, hairy: leaves opposite, cordate, serrate, rugous: peduncles solitary, axillary, shorter than the leaves: heads ovate: bracts ovate, lanceolate: nut 2-celled. Roxb. Fl. Ind.

A common plant, widely diffused over the Indian peninsula, flowering during the rainy and cool seasons.

The plant here represented is certainly Roxburgh's, I have therefore retained his name and character. But since the plate was printed, I have received D. C. Prod. Vol. XI. in which I find it reduced to a synonym of *L. alba* by Schauer, with the following character.

L. alba (Miller, &c.), straight, branches virgate and with the peduncles 4-sided, rough and strigose: leaves opposite, short petioled, elliptic, or roundish, ovate, or sub-cordate; acuminate, coarsely crenato-serrate, rugous, hirto-scabrous above, whitish, villous beneath: peduncles axillary, rigid, spreading, thickened above: capitula hemispherical, spicato-elongated: bracts ovato-roundish or elliptico-ovate, acuminate, half the length of the corolla, exterior ones involucrate, foliaceous, spreading.

This is a variable plant, seen growing on the open ground, it is a low, spreading, procumbent shrub, but if near support, in hedges or among bushes, it often attains the height of 6 or 8 feet, and is then one of considerable beauty on account of the profusion of its heads of pure white flowers.

On the higher slopes of the Neilgherries, the flowers are usually coloured, and look so different from the plant of the plains, that one is almost led to doubt their identity, but on comparison, I could not discover specific marks by which to distinguish them.

1465. Vitex pubescens (Vahl. Schauer. *V. arborea*, Roxb. R. W. Icon.), ramuli 4-sided, channeled, and with the petiols and young leaves pubescent or slightly tomentose: leaves long, petioled, 3–5-foliolate; leaflets elliptic or ovate, oblong, attenuato-acuminate, rounded at the base, sub-sessile, coriaceous, penninerved, glabrous, shining above, pale, finely puberulous beneath: panicles whitish, powdery tomentose, terminal, compound, ovato-pyramidal, compact: cymes interspersed with foliaceous bracts longer than the calyx: calyx cyathiform, sinuately 5-toothed: corolla twice the length of the calyx, inflated; inferior lip straitish, villous at the base. Schauer in D. C. Prod.

A large tree, found in subalpine forests, exposed to the influence of the south-west Monsoon. Malabar, &c. I have also specimens from Mergui and Malacca, communicated by the late Mr. Griffith.

This tree attains a great size, and the timber is said by Roxburgh to be exceedingly hard and durable.

1466. Vitex altissima (Linn fil.), ramuli, compresso-tetragonous, channeled, with the petiols and back of the leaves whitish-woolly: leaves long, petioled, trifoliolate; leaflets elliptic or elliptic-oblong, attenuato-acuminate, at both ends, sub-sessile, entire, coriaceo-membranaceous, penninerved; finely pubescent, and at length glabrous above: panicle terminal, compound, spreading, pyramidal, white with dense tomentum: cymes sub-sessile, compact, minutely bracteolate, interruptedly verticilled: calyx 5-lobed; lobes obtuse, spreading: corolla small, the inferior lip straightish, somewhat woolly.

A considerable tree, not uncommon in subalpine forests, flowering in August and September, during the prevalence of the south-west Monsoon rains. The specimen represented was gathered on the Shevagherry mountains in September.

1467. Vitex leucoxylon (Linn fil., *Wallrothia*, Roth, Walpers, R. W. Icon.), ramuli and petiols pulverulento-puberulous, and like the cymes and young leaves frosted (pruinose): leaves long, petioled, 3–5-foliolate; leaflets elliptic or ovate, oblong, elliptic, shortly and obtusely acuminate, attenuated into a long petiol, entire, sub-coriaceous, penninerved; glabrous, shining above, pale, and, especially on the veins, finely strigoso-puberulous beneath: cymes axillary, long, peduncled, corymbose, devaricato-dichotomous, many-flowered: calyx patelliform, 5-toothed: corolla twice the length of the calyx, inferior lip spreading, densely hairy.

This, so far as I have observed, is a rather rare Indian tree. Courtallum, Malabar, Tanjore, &c.

The genus *Wallrothia* was separated by Roth from Vitex, on what always appeared to me very insufficient grounds, but being adopted by all subsequent writers I, contrary to my own judgment, followed in the train. M. J. C. Schauer, in his revision of the order, has reduced the genus and restored the species to *Vitex*, a course which I have much pleasure in following, the differences being of specific rather than generic value.

1468. Premna tomentosa (Willd.), ramuli, young leaves and cymes every where tomentose: leaves petioled, ovate or ovate oblong, long, acuminate, entire, venoso-rugous, stellato-pubescent on both sides, sparingly above, copiously beneath, panicles large, terminal, many-flowered, compact.

A common shrub, or small tree in the Coimbatore district, flowering during the hot season. Leaves of a pale yellowish green, pubescence, with which all the young parts is clothed, brownish yellow, tending to rusty. Flowers small, white.

1469. Premna integrifolia (Linn, *P. serratifolia*, Lin. Schauer), arboreous, the trunk and older branches armed with opposite spines; unarmed ramuli, panicles and petiols pubescent: leaves short, petioled, ovate or oval, shortly and obtusely acuminate, rounded towards the base, entire, or crenato-dentate, the adult ones glabrous on both sides, shining above, dull, opaque beneath: panicles terminal, loosely corymbose: calyx bilabiate, the upper lip acutely bidentate, inferior oftener entire: tube of the corolla cylindrical, twice the length of the calyx. Schauer in D. C. under P. serratifolia.

A small tree, not unfrequently met with on the plains of India, especially towards the coasts. The flowers which, but for their mass, forming large corymbs, somewhat resembling the Elder, would be sufficiently inconspicuous, exhale a heavy, disagreeable smell, and with their pedicels, are slightly bedewed with a viscid secretion.

Linnæus made two species of this tree, the one "P. foliis integerrimis," the other "P. foliis serratis." The figure represents the former of these, but as both seem to form but one species, I have not hesitated to adopt Schauer's definition of the latter for my plant, as it is so minutely applicable that one might almost suppose that the specimen from which it was taken, was gathered from the same tree with the one represented.

1470. Gmelina arborea (Roxb.), arboreous, unarmed, ramuli and young leaves covered with a greyish, powdery tomentum: leaves long, petioled, cordate or somewhat produced and acute at the base, acuminate, the adult ones glabrous above, greyish tomentose beneath, with 2–4 glands at the base: panicles tomentose, axillary and terminal raceme-like; cymules decussate, trichotomous, few-flowered: bracts lanceolate, deciduous: the acutely dentate calyx, eglandulose.

A small tree, not unfrequent in the Paulghaut jungles, and generally distributed in Malabar.

The drawing was made from a specimen obtained near Koonoor on the Neilgherries, and seems to correspond sufficiently with both Roxburgh's figure and description. I advert to this, as I understand Sir W. Hooker has made a new species under the name of *G. Rheedii*, of what I suspect can at best be viewed as a variety of this species, that is, he views the plant he figures and describes as identical with Rheede's Hort. Mal. 1 tab. 41, but as having no affinity with Roxburgh's Cor. Plants, tab. 246. As I have not seen either his figure or description, and have only portions of Roxburgh's and Rheede's figures, copied from the originals, not the entire plates to compare, I am not in a position to offer an opinion on Sir William's views, but on comparing my specimens with Roxburgh's description, can see no reason to doubt their belonging to the same species, though there be considerable discrepancy between their leaves and those of Roxburgh's plant, as shown in his plate. The differences however are not such as I think ought to have specific value attached, if the other characters correspond, the more so, as I find among my specimens intermediate forms connecting the two extremes, and showing that they belong to the same species, and thence that such slight differences in the outline of the foliage can scarcely be admitted as of itself affording a sufficient specific mark.

1471. Clerodendron infortunatum (Linn), ramuli tetragonous, and like the branches of the panicles, petiols, and nerves of the leaves, whitish, strigoso-tomentose: leaves long, petioled, roundish or ovato-cordate, or the upper ones ovate, or even attenuated at the base, not at all cordate, entire or shortly acuminato-dentate, strigoso-hirtellate on both sides: panicles terminal, spreading, large, naked, cymes laxly flowered, bracteols caducous: calyx strigoso-pubescent, 5-nerved, ventricose at the base, squamato-glandulose, 5-parted; segments lanceolate, slenderly acuminate: corolla strigoso-villous, and glanduloso-punctuate, many times longer than the tube of the calyx; segments of the limb sub-unguiculate, sub-secund, 3 times shorter than the tube.

Frequent in forests and sub-alpine jungles, but also occurs at a great elevation on the Neilgherries. Flowers white, berries purple. Generally to be met with in flower, but like most other plants, in greatest perfection during the rains.

1472. Clerodendron serratum (Sprengel), ramuli quadrangular, furrowed, and with the leaves glabrous: leaves opposite or ternate, chartaceous, short, petioled, ovate, oblong or even lanceolate, cuneato-attenuate, entire at the base, acuminate, remotely mucronato-serrato-dentate, somewhat shining above, pale beneath: panicles terminal, raceme-like, whitish, from mealy pubescence: lower bract, and bracteoles foliaceous, pale, membranaceous, acuminate, bracts ovate, roundish, bracteoles lanceolate: cymes two or three times trifid, loose: calyx cup-shaped, sub-truncated, very shortly 5-toothed: tube of the corolla cylindrical, more than twice the length of the calyx.

A rather common plant, in shady woods and sub-alpine jungles. Abundant on the Neilgherries and there, growing in open pasture ground, a very conspicuous object.

The leaves are deep green, the flowers blue, deeper at the apex, becoming paler downwards, sometimes with a considerable tinge of rose, which adds greatly to the beauty of this already handsome plant. The shrub varies from one to six feet in height, rarely so low as the first, or higher than the last.

1473. Clerodendron phlomoides (Linn), ramuli terete, and, like the petiols and peduncles, whitish tomentose: leaves membranaceous, opposite, petioled, ovate, or ovato-rhomboid, acuminate, somewhat obtuse, entire at both ends, irregularly and bluntly serrated in the middle; glabrous above, puberulous beneath: panicles terminal, large, fastigiate, leafy below: cymes trichotomous, lax, bracteoles oblong: calyx glabrous, campanulato-ventricose, half five-cleft, segments sub-ovate, acute: tube of the corolla sub-glandulose, thrice the length of the calyx.

A common shrub, to be met with nearly all over the peninsula, most frequent in hedge-rows, often in such situations attaining the height of 8 or 10 feet, when not supported rarely exceeding half that height. When in full flow it is a handsome shrub, each branch being terminated by a large panicle of white flowers, the pale almost cream colour of the calyx and bracts still further contrasting with the lively green colour of the leaves.

Symphoremeæ.

This small group of plants, brought together as a sub-tribe of *Viticeæ*, ought, it appears to me, to constitute the type of a tribe, or even a separate order, allied to, but distinct from *Verbenaceæ*, differing as they do from the rest of the order in the inflorescence, the ovary, the placentation, and the seed. It is thus defined by Schauer, in D. C.'s Prod.

"Sub-tribe Symphoremeæ, cymes contracted glomerate, few-flowered; involucrate. Corolla regular or bilabiate. Stamens 4–5, or indefinite. Capsule coriaceous, indehiscent, 1-seeded by abortion.—Flowering shrubs with simple leaves."

This definition, so far as it goes, seems correct. The cymes might, perhaps, with equal or greater propriety have been called simple umbels, and, having an involucre, they convey the idea of an umbel, rather than that of a cyme. The involucre itself, constitutes a peculiar feature, erroneously described in the generic character of *Symphorema* as "6–8 phyllum," but correctly in the description of the species, as being composed of 2 bracts and two bracteoles to each. Such is indeed the composition of the involucre in all the three genera. In *Symphorema* and *Spenodesme* it is composed of 2 opposite bracts, each furnished with two somewhat smaller bracteoles: each leaflet bearing a sessile, axillary flower at the base, and a single flower in the centre, without a fulcrum. In *Congea* one of the bracteoles of each bract aborts, while the opposite, contiguous pair often unite, reducing the four parts to three, giving the appearance of a 3-phyllous involucre.

In the numerous specimens of both *Symphorema* and *Sphenodesme*, I have examined, I have always found the involucre 6-phyllous, and only once (No. 1478), with fewer than 7 flowers and never more. In *Congea*, the involucre is four, or, by the union of the 2 bracteoles, reduced to 3-phyllous, with from 5 to 7 flowers; that is, a flower to each leaflet, and a central odd one unsupported, or two to each bract, one to each bracteole and the odd one. Both Roxburgh and Schauer describe the glomerulus of *Congea* as 6–9-flowered, I have not yet met with more than 7, nor fewer than 5 in any glomerulus, of either of the three species I have examined, thence infer that the statement has originated rather in loose generalization, than actual and careful counting to determine the point.

Does the composition of this involucrum throw any light on the vexed question of leaves and stipules of Galiaceæ, or in any way tend to clear up the difficulty there experienced in determining what are leaves and what stipules.

The umbellate inflorescence and characteristic involucre, seem of themselves to constitute this, at least, a peculiar tribe, if not a separate order; but when to these are added the semi-one-celled ovary and remarkable placentation, approaching that of *Myrsineaceæ*, and the farctuose seed, nothing seems wanting to justify its elevation to the dignity of a tribe: it is my impression even an order, amply distinct from true *Verbenaceæ*. As a tribe, the structure of the ovary and placentation place it between *Viticeæ* and *Avicenneæ*, as it corresponds with that of the latter, viz. "Ovula in loculo gemina, ex apice axeos pendula amphitropa," and to that extent is more nearly allied to the latter, than to the former, in which Schauer places it as a sub-tribe.

The following abbreviated essential characters of the genera I had prepared before Schauer's Monograph reached me, and as they differ slightly from his, I introduce them. To complete the Illustrations of the tribe, I have given the analysis of *Symphorema polyandrum*, in No. 1474.

Symphorema. Involucre 6-phyllous, 7-flowered. Corolla regular, many-cleft; segments inflexed in æstivation. Stamens equalling the number of lobes of the corolla, alternate with them.

Sphenodesme. Involucre 6-phyllous, 7- rarely 3-flowered. Corolla sub-irregular, 5-lobed, imbricate in æstivation. Stamens 5, inserted on the throat of the corolla, alternate with its lobes, shortly exserted.

Congea. Involucre 4- or, by union of the lateral pair, 3-phyllous, 5–7-flowered. Corolla bilabiate, upper lip much produced, 2-parted, imbricate in æstivation. Stamens 4, didynamous, long, exserted.

When naming the plants represented in the accompanying figures, I had not seen Schauer's Monograph. On comparing my plants with his descriptions, I find he had already named several differently from mine, hence the following alterations have become indispensable. No. 1474. *S. barbata*, (Sch.) 1475. *S. Wallichiana*, (Sch.) 1476. *S. Jackiana*, (Sch.) 1477. *S. Griffithiana*, (R. W.)

1474. Sphenodesme barbata (Schauer, *S. ferruginea*, R. W. Icon.), ramuli, nerves of the leaves, and inflorescence every where clothed with reddish or rusty coloured hairs: leaves sub-coriaceous, short, petioled, oblong, usually narrowed a little at the base, obtusely acuminate, sub-mucronate at the apex, septupli-multupli-veined; the younger ones hairy on both sides, the older ones becoming glabrous above; glanduloso-punctuate beneath: panicles simple, racemose, terminal, single or ternate: peduncles filiform, axillary, solitary, longer than the involucre: leaflets of the involucre six, oblong, obtuse, attenuated at the base: calyx cup-shaped, 5-cleft; lobes apiculate, retuse, mucronate on the back.

Malacca. Griffith. I am indebted to Mr. Griffith for the specimen represented.

The peculiar clothing and inflorescence of this

species are remarkable. Leaves 2–4 inches long, 1½ to 2 broad. Peduncles about an inch and half long: leaflets of the involucrum unequal: calyx about 2 lines long, lobes slightly cleft at the apex, very hairy externally, sparingly so within. Corolla scarcely exserted, the lobes pubescent without; throat hairy, stamens 5, exserted, apex of the ovary villous.

The analysis of the species is taken from flower-buds before expansion, hence I presume the slight discrepancies between the figure and character.

In the left hand corner of the plate is an analysis of *Symphorema polyandrum* introduced for the purpose of exhibiting at one view the differences between the three genera, and showing how widely *Symphorema* differs from the other two, though in habit and general appearance so like.

1475. Spenodesme Wallichiana (Schauer, *S. pentandra*, R. W. Ic.), ramuli, pubescenti-tomentose: leaves coriaceous, short, petioled, ovate, oblong, obtuse at the base, narrow acuminate, quintupli-septupli-veined; glabrous, shining above, beneath bearded in the axils of the veins: panicles large, bracteolate, leafy below: bracts ovate: peduncles filiform, as long as the involucre, and like it and the flowers glabrous: leaflets of the involucre linear, oblong, sessile, obtuse: calyx cup-shaped, 5-nerved, very shortly 5-cleft, truncated, ciliate.

The drawing was made from a specimen received from the Calcutta Botanic Garden. The species has not previously been figured.

1476. Sphenodesme Jackiana (Schauer. *S. acuminata*, R. W. in Icon.), ramuli, pubescenti-tomentose: leaves coriaceous, short petioled, oblong, obtuse at the base, attenuato-acuminate at the apex, quintupli-septupli-veined; glabrous, shining above, beneath pubescent, or becoming glabrous, bearded in the axils of the veins: panicles large, brachiate, leafy below: bracts oblong: peduncles filiform, about equal to, or a little shorter than the involucre, and like it thinly sprinkled with hairs: leaflets of the involucre linear, lanceolate, sessile, obtuse, scarcely mucronulate: calyx glabrous, tubuloso-campanulate, 10-nerved, 10-toothed; five teeth lanceolate, reflexed, 5 broad, triangular, acute, erect.

Malacca. Griffith.

The bracts of the specimen accidentally taken for representation, had all fallen off. That part of the character is however correct, as I find another specimen quite in accordance with it.

This is nearly allied to 1475, but is certainly distinct, calyx about 4 lines long, venoso-reticulate, 5 of the veins supplying the reflexed teeth a little larger, within serieco-villous round the ovary, otherwise glabrous: tube of the corolla as long as the calyx, throat very woolly within, segments spreading: stamens 5, shortly exserted.

1477. Sphenodesme Griffithiana (R. W. *S. Jackiana*, R. W. Icon., not Schauer), ramuli 4-sided, sub-pubescent, densely pilose on the joints: leaves oblong, lanceolate, sub-cuneate towards the base, acuminate above, glabrous on both sides, except tufts of hair in the axils of the veins: panicle brachiate, loose, leafy below, bracts lanceolate, acute, shorter than the peduncles: peduncles filiform, about the length of the involucrum, and like it pilose: leaflets of the involucre unequal, sub-scariose, linear spathulate, obtuse: calyx campanulate, 5-cleft, piloso-tomentose; lobes bidentate at the apex, with a reflexed tooth on the sinus: corolla glabrous.

Mergui. Griffith.

Allied to the preceding (1746), but differs in the involucre and calyx, and glabrous corolla. Leaves 3–6 inches long, tapering somewhat towards the base, acuminate, pointed at the apex, glabrous, except the tufts of hair in the axils of the veins below. Panicles large, brachiate, the branches slender, 4-sided, sides slightly furrowed, pilose; peduncles and involucre copiously pilose. Calyx sub-tomentose, the lobes bidentulate at the apex, with a minute, reflexed tooth on the sinus (not well shown in the figure). Corolla scarcely exserted, glabrous. The drawing of the corolla, being taken from a young flower, may not be quite correct on this point.

1478. Sphenodesme triflora (R. W.), ramuli glabrous or slightly vellutino-pubescent: leaves short petioled, lanceolate, acuminate at both ends, acute, glabrous, or the younger ones almost inconspicuously velutinous, not bearded in the axils of the veins: panicle large, brachiate, leafy to the last divisions: bracts ovate, and, like the short, rigid peduncles, involucre and calyx vellutino-pubescent: leaflets of the involucre very unequal, elliptic, attenuated at the base, bluntish at the apex: umbels 3-flowered! Calyx tubular, 5-lobed, 10-nerved, nerves of the lobes larger; lobes triangular, acute; tube pubescent within: corolla exserted, pubescent, throat hairy: stamens and style exserted.

Malacca. Griffith.

This is readily distinguished from all the other species by its 3-flowered umbels. Leaves from 4 to 6 inches long, and 1½ broad, tapering at both ends: calyx about 3 lines long, when dry of a pale brownish yellow colour, clothed with short, velvety pubescence. In the figure No. 1, the pubescence is represented much too long and coarse.

Congea. (Roxb.)

When naming the subject of 1479, I had not seen Schauer's Monograph. He, I find, reduces *C. villosa*, Roxb. and *C. azurea*, Wall., referring both to C. *tomentosa*, Roxb. I am unable to say how far he is correct in considering *C. villosa* and *azurea* identical, not having an authentic specimen of the former, but I certainly cannot coincide with him in combining *C. azurea* and *tomentosa*, which I consider quite distinct, and therefore presume he has fallen into error through the imperfection of his materials. To prevent, as far as I am able, the extension of the confusion likely to arise from this accidental error, I have determined to give a figure of *C. tomentosa* for comparison with Wallich's *C. azurea*, the drawing of which is taken from an authentic specimen. To these I add one of what I now consider a new species. The numbers of these two after-thought plates, would necessarily remove them far from this place, but, for the convenience of immediate comparison, I shall anticipate their publication, and insert them here. The plants from which the drawings are made may be thus briefly distinguished:

C. azurea (Wall.), leaves elliptic, acute, or sub-mucronate at the apex, slightly hispid above, softly velutino-pubescent beneath: leaflets of the involu-

crum obovate, oblong, sub-cuneate towards the base, softly velutino-pubescent on both sides: umbels 5–7-flowered: calyx teeth narrow, lanceolate, acute.

C. tomentosa (Roxb.), leaves ovate, slightly cordate, acute, or sub-acuminate; hispid above, tomentose beneath: leaflets of the involucre oval, obtuse at both ends, tomentose above, softly pubescent beneath: umbels 7-flowered, calyx teeth short, blunt.

C. velutina (R. W.), leaves ovate, acuminate, glabrous on both sides, coriaceous, leaflets of the involucre obovate, spathulate, dilated and cohering at the base, forming a cup in which the flowers are seated, velvety on both sides; umbels 5-flowered: calyx, teeth very short, obtuse.

In all these I find indications of the compound nature of the third leaflet of the involucre, but in one specimen of the last, there are several instances of the bracteoles remaining permanently distinct, as shown in Fig. 2. B. Plate 1479, thus clearly explaining what might otherwise have remained a conjectural inference.

1579. Congea azurea (Wall.), ramuli terete, and like the branches of the inflorescence ferrugineo-tomentose: leaves short, petioled, ovate, acute or slightly cordate, occasionally sub-cuspidate, shortly pilose above, pubescent beneath: panicles large, terminal, trichotomous: leaflets of the involucre obovate-cuneate, frequently one of them 2-veined and emarginate, the other 2 with a single costa and entire, all villous on both sides: umbels 5 to 7-flowered, calyx tubular, 5-cleft, segments long, narrow, lanceolate, acute, thickly clothed with long hair on both sides: tube of the corolla shorter than the calyx, glabrous within, upper lobes of the limb much produced: stamens exserted; anthers truncated, dehiscing at the apex.

The specimens, from which the figure and character were taken, were received under this name from the Calcutta Botanic Garden. The colour of the involucre, if originally azure, has faded, and changed to a pale, rusty colour. Walpers adopts Wallich's specific name, and quotes Roxburgh's (Villosa) as a synonym, perhaps incorrectly. If otherwise, I do not understand on what principle the more recent is to take precedence of the older name. It is adopted here, because I know this to be really Wallich's plant, while I am altogether unacquainted with Roxburgh's, whose description does not quite correspond with my plant, and because I do not think Wallich would have given it a new name, had he not felt sure it differed from Roxburgh's.

Erratum.—For B. *C. villosa*, read *C. velutina* (R. W.)

1479–2 or 1565. Congea tomentosa (Roxb.), ramuli and inflorescence tomentose: leaves broad, ovate, slightly cordate, acute or sub-acuminate, hispid above, tomentose and pubescent beneath: panicles large, axillary and terminal: peduncles thick, pilose, shorter than the leaves of the involucre, umbels 7-flowered: leaflets of the involucre broad, oval, obtuse at both ends, tomentose above, densely pubescent beneath; one of them often more or less deeply divided rarely two parted to the base: calyx clothed on both sides with long, slender, jointed pubescence, 5-cleft; segments obtuse or scarcely acute: tube of the corolla exceeding the calyx, hairy within: anthers dehiscing longitudinally.

Mergui. Griffith.

This character differs in some points from Roxburgh's description, but the specimens seem to agree so well with his figure that I can scarcely doubt the identity of the two plants. But still they may not be the same as his is a native of Coromandel, while mine is from the Tenasserim Coast. If on comparison they are found distinct, it must be admitted they are so very nearly allied that the figure of the one may be taken for that of the other. I am indebted to the late Mr. Griffith for my specimens.

Roxburgh describes the umbels of his plant as having from 6 to 9 flowers, whereas his figure only shows seven.

1479–3 or 1566. Congea velutina (R. W.), ramuli terete, glabrous; inflorescence velvety: leaves broad, ovate, acuminate, glabrous, shining above, shortly pilose on the veins beneath: panicles large, loose, terminal, branches dichotomous at the apex: peduncles about the length of the involucre, slender: umbels 5-flowered, leaflets of the involucre obovate, spathulate; tapering below, dilated and cohering at the base, forming a cup, or sometimes 4-leaved and then free: calyx short, velutino-pubescent, slightly 5-cleft, teeth short, obtuse: corolla much exserted, throat hairy: anthers globosely 2-lobed, dehiscing by a short, longitudinal slit.

Mergui. Griffith.

I am indebted to the late Mr. Griffith for my specimens of this very distinct species. In one of two specimens nearly all the umbels are 3-phyllous, in the other many of them are 4-phyllous, or in other words the bracteoles have not, as in the others, cohered. Fig. B. of Plate 1479, represents one of the latter, but under the erroneous name of C. villosa, an error which I beg the reader to correct. As regards foliage, my specimens are far from perfect, this being only one leaf to the two specimens and as it is an old one may not correctly represent the clothing which on it amounts only to a few short hairs, scattered over the veins on the under surface.

1480. Callicarpa Wallichiana (Walpers), ramuli, cymes and petiols densely ferrugineo-tomentose: leaves coriaceo-membranaceous, broadly ovate, roundish, or narrow, obtuse, or even acuminate at the base, long petioled, attenuato-acuminate, entire, or slightly repand, and minutely denticulate, reticulato-rugous; adult ones, except on the veins, glabrous above; densely woolly, whitish tomentose beneath: cymes many-flowered, bipartite, divaricato-dichotomous, corymbose, peduncles half the length of the petiol: calyx truncate or slightly 4-lobed.

Travancore, frequent among low jungles, in arid, ferruginous soil, flowering in February and March. I have met with it in many other places. It is most readily distinguished from *C. lanata*, with which it has usually been confounded, by its entire, not dentato-serrate leaves. It attains the size of a considerable shrub, very conspicuous from the dense clothing of matted, white tomentum with which it is every where, except the upper surface of the leaves, covered, and its large clusters of pinky or pale lylac flowers which adorn its younger branches. Leaves, exclusive of the petiol, 6–10 inches, and from 3 to 4 broad, ending in a long, tapering acu-

men, the under surface thickly covered with stellate tufts of white hair intermixed with minute glands: calyx clothed like the leaves: corolla twice or thrice the length of the calyx, pubescent externally: stamens twice the length of the corolla: berries small, about the size of black pepper corns.

Avicennia, (Linn.)

This genus associates with Symporemeæ in the character of its placentation, but differs in the seed. Much uncertainty seems to exist among Botanists as to the limits of its species. Walpers has 2 species, but assigns to one of these no fewer than 7 distinguishable varieties, Asia, Africa, America, Australia and the Phillipine Islands, each contributing to the list. The two plants here figured are considered by him identical, not even varieties. Blume has not given figures of his plants, hence I presume their supposed identity. Schauer in his Monograph describes 4 species, distributed under two sections, viz.:

1. "*Donatia*, stylus manifestus, post corollæ lapsum e calyce exsertus.

2. "*Upata*, stylus sub-nullus, stigmata in vertice, ovarii fere sessilia."

He, like Walpers, refers both to the same species which he calls *A. officinalis*, and places it in the 2d section along with *A. tomentosa*, which name he restricts to the American plant. On the correctness or otherwise of that division, I am unable to offer any opinion, never having seen it, but I am not prepared to go along with him in viewing the two plants here represented as the same species, though nearly allied. When naming the drawings, I adopted Blume's views and still, perhaps erroneously, retain his name. He may be in error in considering the Java plant identical with the American one, but not in viewing his *A. alba* as distinct from his *A. tomentosa*, if I have not erred in viewing these as his plants.

1481. Avicennia tomentosa (Lin. Blume, *A. officinalis*, Lin. Schauer), leaves obovato-cuneate, obtuse, glauco-tomentose beneath. Bl.

Malabar coast, and generally to be met with in salt marshes on both coasts of the Indian peninsula.

A small tree or considerable shrub, with obovate, obtuse, coriaceous leaves, light green above, whitish or greyish beneath; petiols densely villous above: peduncles axillary and terminal, trichotomously panicled; branches short, stout, terminating in a single capitulum, or elongated and bearing several sessile, lateral ones; bracts concave, coriaceous, 3 to each flower, and, like the calyx lobes, ciliate, calyx 5-parted, lobes ovate, obtuse, glabrous. Corolla scarcely exceeding the calyx, 4-cleft, lobes ovate, acute, pubescent on the back, yellow: stamens 4, about equal, scarcely exserted; anthers globose, deeply furrowed between the cells. Ovary ovate, pubescent, imperfectly 4-celled, with 2 ovules in each, pendulous from the free apex of an erect, central placenta: style short, cleft at the apex: fruit oblique, ovate, compressed, apiculate, roundish at the base, supported by the persistent calyx and bracts.

Schauer has revived for this species Linnæus' specific name "Officinalis," and I think correctly, as it differs in some points from the American plant to which he restricts Linnæus' "tomentosa." Linne himself however did not think them distinct, as he afterwards reduced his A. officinalis. In the American plant, the flowers are white, in the Asiatic one yellow, a difference which in so difficult a genus ought not to be overlooked in the determination of its species.

1482. Avicennia alba (Blume), leaves oblong, lanceolate, acute, or slightly obtuse, glabrous, whitish beneath. Bl.

Tellicherry, Malabar Coast.

In addition to these brief characters, the habit of the two plants is very distinct and is well preserved in the figures. Admitting therefore that the Asiatic plants are distinct from the American, they must equally be viewed as distinct from each other and may perhaps be thus defined.

A. officinalis (Lin.), leaves obovate or obovato-cuneate, coriaceous, glabrous above, glauco-pubescent beneath: peduncles axillary, solitary or sub-panicled terminal, with several sessile capitula, or a single terminal one: bracts and lobes of the calyx coriaceous, concave, ciliate, sub-acute: corolla 4-cleft: stamens as long as the lobes, exserted: style about the length of the ovary, slightly cleft at the apex, segments acute, approximated.

A. alba (Blume), leaves oblong, elliptico-lanceolate, acute at both ends, glabrous above, whitish pulverulent beneath: peduncles terminal, from the axils of the last pair of leaves of the branches, long, slender; flowers capitate: capitula compact, many-flowered: bracts and calyx villous on the back, densely ciliate: corolla scarcely exceeding the calyx, 4-cleft; lobes acutish: stamens about half the length of the lobes, sub-incluse: ovary densely hairy on the apex; style short, 2-cleft; lobes dilated, lanceolate, spreading.

1483. Premna cordifolia (Roxb.), ramuli, cymes and petiols, of the younger leaves, villous: leaves short, petioled, cordate, or cordato-ovate, acuminate, entire, bullate, glabrous on both sides, shining above, dull and pale beneath: panicles terminal, small, contracted-corymbose: calyx cup-shaped, 2-lipped, both lips roundish, entire: corolla bilabiate, about the length of the tube of the calyx.—A shrub from 3 to 6 feet high, with slender, erect, simple branches, villous above and terminating in, usually, a compact corymb of yellowish flowers: leaves from 3 to 6 inches long, the petiols and veins more or less villoso-pubescent, in my specimens scarcely bullate, calyx glabrous, when dry whitish or somewhat scariose-like, the lips nearly equal, broad, rounded on the margin, and generally not so distinctly pointed as in the figure: upper lip of the corolla rounded, entire, concave; the lower one 3-lobed, the middle lobe larger, somewhat exceeding the upper, concave; throat densely villous, stamens and style about the length of the corolla.

This plant is met with in hedges and among low bushes, but generally solitary, the station whence the specimen represented came is not marked, but I have often met with it, occasionally in Coimbatore. It agrees generally so well with Schauer's character and description, that I feel disposed to suspect the difference between the character and figure of the corolla as an accidental, perhaps a typographical error, as Roxburgh does not allude to it, but the short style of my plant cannot be so accounted for.

1484. PREMNA GLABERIMA (R. W.), every where glabrous, except a slight vellosity on the inflorescence: leaves obovate, oblong, abruptly acuminate, acute, rigid, entire, somewhat shining above, pale whitish beneath: panicles terminal, lax, corymbose, ultimate divisions dichotomously cymose: calyx campanulate, obscurely 5-toothed, shortly villous: corolla bilabiate; upper lip emarginate, under 3-lobed, middle lobe the largest, throat hairy: stamens didynamous, the longer pair exserted: style length of the longer stamens, sub-clavate, 2-cleft at the apex.

Courtallum, flowering in August.

Apparently a large shrub: leaves short, petioled, larger ones from 6 to 8 inches long and about $2\frac{1}{2}$ broad, tapering towards the base, very glabrous, rigid or somewhat coriaceous, the younger ones, next the panicles, membranaceous; the floral ones and bracts subulate.

In the same paper with the specimen represented were others differing greatly in form, but so far agreeing in habit that I am now uncertain whether they ought to be esteemed a distinct species or a variety. The leaves are equally glabrous, entire, and acuminate, but in place of being short petioled, oblong-obovate, are long petioled, ovate, rounded at the base or even sub-cordate, with axillary and terminal, long peduncled, lax, corymbose panicles. The bracts also are similar, but the flowers have all fallen off, so that I am unable to carry the comparison further. It however appears that the main differences are confined to the form of the leaves and that they are in fact different forms of the same plant, in which case the leaves should be described as "varying from ovate, rounded at the base, to oblong, obovate, tapering towards the short petiol."

1485. PREMNA WIGHTIANA (Schauer. *P. thyrsoidea* R. W. Icon.), ramuli, cymes and petiols puberulous: leaves petioled, ovate, abruptly acuminate, rounded or slightly produced at the base, entire, or shortly toothed anteriorly, sub-bullate, glabrous, nitidulous on both sides: panicles terminal, thyrsoid: calyx sub-bilabiate, unequally 5-toothed: tube of the bilabiate corolla twice the length of the calyx.—Leaves about 3 inches long, membranaceous, sub-bullate between the secondary nerves. Panicles during fructification thyrsoid, elongated. Calyx cupola-like, about a line long. Corolla small, throat closed with hairs. Putamen of the drupe pear-shaped, verrueoso-tuberculate.

Courtallum, Dindigul, Serramallay, Travancore, &c. A small tree or large shrub, flowering during the autumnal rains, maturing its fruit during the cool season. Flowers and bruised leaves exhaling a heavy, disagreeable odour.

Before Schauer's Monograph reached me I had named this plant *P. thyrsoidea*, a name which, being anticipated, must now give place to the older name. The thyrse or panicle of the specimen, selected for representation, seems to be much larger than the one seen by him, as he designates it in his character small (paniculis terminalibus parvis sub-thyrsoideis), and indeed it is so much above the average size, that, did not my series of specimens present every gradation, I should almost have been led to view it as a distinct species.

1486. CHRISTISONIA AURANTIACA (R. W.), erect, sparingly scaly, pilose: scales ovate, appressed, glabrous: flowers corymbose, long, peduncled: peduncles bibracteolate near the middle: calyx tubular, pilose, 5-toothed, teeth mucronate: corolla tubular, externally pilose; limb about equally 5-lobed; lobes rounded, spreading: stamens didynamous; sterile cell of the anthers subulate, about twice the length of the fertile one, style exceeding the stamens, exserted, bent at the apex, stigma large hairy, umbellicate.

Neilgherries, among long grass by the road side leading from Neddawuttum to Goodaloor, also very abundant in the dense jungles surrounding Mr. Ouchterlony's Coffee Plantations.

In the former station it occurs in patches of a few plants, but in latter in masses, covering several square feet. I could not make out the plant on which it grew, or rather I should say it does not limit itself to one species. It rises to the height of 6 or 8 inches, the stems, bracts and bracteols of a dull, brownish yellow, the calyx deep, reddish orange, tube of the corolla dark yellow, limb bright yellow within. Altogether it is a very conspicuous plant and one which I have not before met with.

ACANTHACEÆ.

This large and eminently tropical order has recently been elaborately revised by that highly accomplished Botanist, Professor Nees Von Esenbeck. In the course of his investigations he has deemed it necessary to constitute numerous new genera, the limits of which it is not always easy to make out from verbal description. In the hope therefore of lightening the labour of acquiring a knowledge of so difficult an order, the species of which abound in India, and have hitherto been but sparingly illustrated by Botanical writers, I propose, in this and the following part, giving figures and analyses of most of the Indian genera. I cannot give all for want of specimens. Some of the genera, it appears to me, might well have been spared, but others, I apprehend, will yet require to be divided. This, however, I do not attempt, as such a proceeding would demand on my part an equally extended and careful revision of the whole, an undertaking for which I have neither time nor adequate materials.

I prefer, therefore, leaving the task to others more favourably situated, trusting, however, that the materials I have been able to contribute may not prove wholly useless to future labourers in the same field, as I believe that, generally speaking, the accompanying figures and analyses will be found very nearly correct.

1487. MEYENIA HAWTAYNIANA (Nees), shrubby, procumbent, glabrous: leaves sessile, cordate, acute.

Frequent on the Eastern slopes of the Neilgherries, also on the tops of the Ayamallay hills near Coimbatore.

The deep purplish blue of the limb of the corolla, and the numerous flowers which open at once, render this a very conspicuous plant and one well worth cultivation.

1488. EBERMIERA GLAUCA (Nees), racemes axillary and terminal, leafy: leaves oblong, entire, glabrous, attenuated into the petiol: stem, rachis of the racemes, spreading lanceolato-spathulate bracts and calyx glanduloso-pubescent.

Mysore, Coorg, &c.

This seems to be a rare plant. I have never myself met with it, and have only seen specimens from Mysore. The one selected for representation is small, but seems specifically identical with those from which Nees' character and description are taken. It appears a low, herbaceous annual, very ramous at the base. Branches at first leafy, each ending in a longish spike; on the leading shoot the spikes are axillary.

1489. HYGROPHILLA OBOVATA (Nees), stem herbaceous, erect: cauline leaves oblong, those of the branches obovate, obtuse, attenuated into the petiol, entire, slightly hirsute on both sides: flowers half verticelled: calyx 5-fid, the segments and the inferior lip of the corolla bearded.

Malabar, flowering during the rainy season, also Mergui and Malacca.

I have not an authentic specimen of this species, so that I am not quite certain of this being Nees' plant.

He divides the genus into two sections 1. "Verticillis florum completis," and 2. "Verticillis dimidiatis," and refers *H. obovata* to the second. The specimen represented seems to unite the two sections, having the whorls both complete and dimidiate. In other respects it seems to accord well with the character. My specimens from Mergui, whence Nees had his, correspond with the Malabar plant.

1490. HYGROPHILA SALICIFOLIA (Nees), stem herbaceous, erect, roughish round the joints: leaves lanceolate, acuminate at both ends, lineolate, hirsute on the veins beneath: whorls dimidiate: segments of the calyx subulate, hairy.

Quilon? the station whence the specimens were obtained is not marked, but I believe Quilon is the place. The figure and analysis sufficiently show the forms of the parts, but not so clearly the peculiarity described by the term *lineolate*, "Omnia folia supra densissime lineolata et obsolete punctata." These "lineoles" are a number of closely appressed white lines, resembling hairs, but which adhere to the surface, and are covered by the epidermis. How they are produced it is difficult to say, but that they are not hairs is easily shown by subjecting them to the action of an acid which, the moment the cuticle is broken, excites in them a lively effervescence, though on so small a scale that it requires the aid of the microscope to see it. All the species of Hygrophila are provided with them as well as many other genera of this order.

1491. ERYTHRACANTHUS OBTUSUS (Nees), leaves oblong, obtuse at both ends, the costæ, stem and petiols pubescenti-hirtous: racemes axillary and terminal, compound, equalling the leaves: stem creeping at the base.

Mergui. For the specimen here represented I am indebted to the late Mr. Griffith, who seems to be the only person who has yet found the plant. It is not in the best state for representation being somewhat too young to give a satisfactory idea of the inflorescence and fructification.

1492. HEMIADELPHIS POLYSPERMA (Nees), stem repent: leaves elliptic-oblong, glabrous: spikes on both branches and ramuli terminal: bracts obovate or oval, rough.

Mergui. Griffith.

My original specimen of *H. polysperma* is so imperfect that I can scarcely identify it as the same with the one represented, though I consider them the same. I have adverted to the circumstance in consequence of Nees describing the spikes as "semipollicares pollicares," while in my specimens they are two or three inches long.

I am not sure that I perfectly understand his description of the stamens, but if I have not misunderstood him it does not quite agree with my figure beyond the circumstance of there being 2 short sterile filaments. His words are "Stamina tubo infero inserta: filamenta basin versus ab altero latere membranacea, et ubi contrahuntur rudimentum alterius filamenti breve setaceum hirtum exserentia." The structure, as shown in the drawing, is the same as in many species of *Strobilanthes*, *Goldfussea*, &c., with the exception of the short filaments being sterile, in place of antheriferous.

1493. PHYSICHILUS SERPYLLUM (Nees), stem diffuse, creeping: leaves strigoso-hirsute, the stem ones sub-orbiculate, the floral oblong, or oblong lanceolate: upper lip of the corolla bifid, lower acutely 3-toothed.

Bombay. I am indebted to Mr. Law for the specimen here represented. I have never myself met with the growing plant, and suspect it is rather rare or confined to certain localities. Nees had specimens from both Bombay and Mysore, the former collected by Mr. Law, the latter by Captain Campbell.

1494. GYMNOSTACHYUM POLYANTHUM (R. W.), flowers fascicled on the raceme; fascicles sub-approximate, many-flowered, short, peduncled: pedicels bibracteolate: leaves petioled, sub-rotundo-cordate, glabrous, elineolate on both sides: anthers oval, ecalcarate: stem and calyx glabrous.

Coorg. I am indebted to Mr. Jerdon for my specimens of this plant.

It seems nearly allied to *G. Ceylanica*, being like it sub-acauline, the leaves nearly all radical, and the flowers fascicled along the raceme and sparingly branched rachis; but differs in the cordate, orbicular, glabrous, elineolate leaves. Leaves deep green above, pale, almost whitish and strongly marked with prominent veins beneath. Rachis furrowed, glabrous: fascicles of flowers compact, pedicels short, with 2 minute bracteoles at the base. Calyx glabrous, segments subulate. Corolla much longer than the calyx, two-lipped, upper lip two- under three-cleft; tube hairy within. Capsule nearly as long as the corolla, slender, twelve-seeded. Seeds hairy.

1495. CRYPTOPHRAGMIUM CANSCENS (Nees), spikes axillary, passing into terminal bifid; secund-flowered, glanduloso-hirsute; leaves ovate, acutish, cuneform at the base, repand, pubescent: capsule twice the length of the setaceous calyx.

Courtallum. Flowering August and September. Nees contrasts this with *C. serrulatum*, and considers the two plants quite distinct. As I have not seen authentic specimens, I cannot dispute the justice of his decision, but so far as description enables me to judge, I suspect they will be found too nearly allied.

The leaves of my specimens are not serrulate, but they are as large as those of *C. serrulata*, exceeding 9 inches in length and 4 in breadth, pubescent on both sides, but scarcely scabrous: the capsules are more than twice the length of the calyx, though, certainly, not thrice the length. The pubescence on the leaves, as shown on the drawing, is rather too conspicuous.

1496. Cryptophragmium axillare (Nees), cymes axillary, regular, glandulose, about the length of the petiol: leaves broadly ovate, acute at both ends, glabrous, punctulate.

Ceylon—March, 1836.

Further consideration leads me to suspect that this is not the true *C. axillare*, though agreeing in so many particulars. In Nees' plant the stems are said to be repent, a foot and half long: here they are evidently diffuse, climbing, and probably many feet long. In his, the stems are 4-sided, with decurrent angles from the leaves, here they are terete, but angled: in his, the leaves with the petiol are $3\frac{1}{2}$ inches long, and from $1\frac{1}{2}$ to 2 broad, here they are about half the size; but it is a branch and then the leaves are said to be smaller: in his, the petiols equal the peduncles, here the leaves are almost sessile; in other respects it seems to quadrate with the description and comes from the same country, and is the only plant in my collection at all corresponding with the character of the species, a specimen of which, from my collection, Nees quotes.

Endopogon, Stenosiphonium.

These two genera, as they stand in Nees' Monograph, can scarcely be viewed as distinct though, at first sight, apparently, easily distinguished by the number of their stamens—2 in the former, 4 in the latter. But this distinction Nees has himself broken down by his *St. diandrum*, regarding which he remarks, "ambigit inter Endopogones et Stenosiphonia sed calyx vix usque ad medium divisus;" thus making the essential generic distinction rest on the greater or less depth of the clefts of the calyx, and not on the number of stamens, nor seed in the capsule, or in other words assigning generic value to a circumstance usually esteemed of scarcely specific note. To this high valuation I demur, and therefore in naming the following species, left the calyx comparatively out of consideration, and in lieu thereof made use of the number of seed in the capsule combined with the form of the corolla; viz. a campanulate limb, and long, slender tube, which is common to both.

Endopogon, corolla campanulato-infundibuliform, capsule 4-seeded.—Stamens usually two.

Stenosiphonium, corolla campanulato-infundibuliform, capsule 8-seeded.—Stamens usually four.

Thus the number of stamens and seeds in the capsule divides, into two genera, a group of species which the form of the corolla unites. So far all is easy. But the tetrandrous *Stenosiphonium* has at least one diandrous species, and according to my view, the diandrous genus *Endopogon* has a tetrandrous species in my *E. strobilanthes*.

Here a new difficulty arises, *Endopogon* differs from *Strobilanthes* in the number of its stamens, and to some extent in the form of its corolla, the latter wanting the long slender tube, the limb being nearly the same in both. In my *E. Strobilanthes* there are 4 stamens, and the capsule is 4-seeded, hence, as regards the stamens and capsule, it is a *Strobilanthes*, with the corolla of *Endopogon*, while the calyx and stamens are those of *Stenosiphonium*. The two nearly allied species, *E. capitatus* and *foliasus*, have the stamens and capsule of *Endopogon* and the calyx of *Stenosiphonium*.

Ought in such a case an additional genus to be constructed for the reception of these 3 plants, which are all so closely allied in habit as to appear inseparable; or are we rather to stretch a point and admit them into one of the already existing 3 genera? The latter has appeared to me the preferable course, hence I have referred them all to *Endopogon*.

They all coincide with *Endopogon* in the form of the corolla and number of seed, and two of them further coincide in the number of stamens, but they all differ in having a 5-cleft, not 5-parted, calyx: but to that I attach only secondary importance. The inconvenience attending this course is the introduction of a didynamous species into a diandrous genus, which, however, is partly palliated by finding Professor Nees introducing a diandrous species into a didynamous genus, so that analogy is in its favour. Influenced by these views, and attaching only specific, or at most, sectional value to the extent of adhesion between the lobes of the calyx, I submit for the consideration of Botanists, the following diagnostic characters of the three genera just named; the adoption of which will, I apprehend, obviate the necessity of an additional one in an order, perhaps, already overburthened with genera, some of them resting on imperfect observation of the structure on which they are founded. In saying that I think fewer might serve, it can scarcely be necessary to guard myself against being misunderstood in the opinion already expressed, that some of the existing genera may require sub-division, as that does not imply that all the existing ones will be found worthy of preservation.

Endopogon. Flowers diandrous, rarely didynamous. Corolla campanulato-infundibuliform, with a long, slender tube. Capsule 4-seeded.

Strobilanthes. Flowers didynamous. Corolla infundibuliform, tube short. Capsule 4-seeded.

Stenosiphonium. Flowers didynamous, rarely diandrous. Corolla campanulato-infundibuliform, with a long, slender tube. Capsule 8-seeded.

The first and last differ in the number of seed, the second from both in the form of the corolla.

1497. Endopogon versicolor (R. W.), bracts lanceolate, subulato-attenuate at the apex, and, like the calyx, densely glanduloso-hirsute: calyx 5-cleft, segments lanceolate: leaves long, petioled, broadly ovate, acuminate, crenate, glabrous above, white beneath.

Neilgherries, flowering in March and April.

This species is very nearly allied to *E. hypoleucas*, from which it differs in the much larger size of all the parts of the inflorescence, the long, lanceolate, subulate bracts, and the abundant viscid, glandular clothing of the ramuli and inflorescence, which is nearly wanting on my authentic specimen of that species. The under surface of the leaves is perfectly white, from a compact layer of very fine

appressed, matted pubescence. The characters, however, agree, generally, so well with those of *E. hypoleucas*, that, but for having an authentic specimen for comparison, I should scarcely have ventured to consider them distinct. The character of the calyx associates it with *Stenosiphonium*, but it differs in all other respects.

1498. ENDOPOGON VISCOSUS (Nees), bracts oblong, lanceolate (the lower ones sometimes oval), obtusely unguiculato-cuspidate, carinate; as long as the calyx, rigid, and with the raches, hirsuto-glandulose: leaves oval-oblong, or oval-attenuated at both ends, hispid: seed oval. *Var. α. viscosissimus*, spikes very dense, villous: upper leaves shorter, oval, with a short point, strigillose above.

Ceylon.

Var. α humilis*, spikes shorter, more compact; lower bracts somewhat oval; otherwise as in *α.*—Courtallum.

The drawing was made from one of the same set of specimens, as the one referred to by Nees under the second variety. It is a low, shrubby, very ramous plant. The whole height of one now lying before me is only six inches, another is about 9 inches high.

1499. ENDOPOGON CAPITATUS (R. W.), spikes abreviato-capitate: exterior bracts leaf-like, limb glabrous, the dilated base, calyx, ramuli, and petiols, thickly covered with rigid, glandular hairs: leaves ovate, acuminate, serrated; limb glabrous, densely lineolate.

Neilgherries, flowering March and April.

A large, ramous shrub, flowers pale blue, capsule about the length of the calyx, 4-seeded. In the figure it seems as if two-seeded, that is an error of the artist.

1500. ENDOPOGON STROBILANTHES (R. W.), spikes elongated, glabrous, exterior bracts foliaceous, oblong, lanceolate, or ovate, acuminate, longer than the calyx: calyx 5-cleft, segments lanceolate: stamens 4-didynamous: leaves broadly ovate, acuminate, serrated, glabrous, lineolate on both sides.

Neilgherries, flowering during March and April.

A large, ramous shrub, each ramulus terminating in a spike of pale blue flowers. In habit and in the foliaceous character, but not in leaf-like form of its exterior bracts, this species quite accords with both the preceding and following species; it also agrees in the form of the corolla, but differs in having 4, not 2 stamens. When in full flower it is a very handsome shrub.

1501. ENDOPOGON FOLIOSUS (R. W.), spikes abreviato-capitate, glabrous; exterior bracts leaf-like; limb ovate, acuminate, serrated: flowers diandrous: leaves long, petioled, glabrous.

Neilgherries, flowering March and April.

In habit and general appearance like the two preceding species, differing from the first in being every where glabrous, and from the second in its capitate not elongated spikes.

The three form a very distinct section of the genus, characterized by their large, exterior, foliaceous bracts.

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EXPLANATION OF PLATES.

VOL. IV.—PART IV.

1502. **Stenosiphonium diandrum** (Nees), leaves ovate, crenato-dentate, glabrous: bracts oblong, somewhat obtuse, and, like the calyx, glanduloso-hispid: flower solitary, diandrous: filaments hairy at the base.

Courtallum; flowering July and August. Nees' specimens of this species are from Ceylon, hence a doubt exists as to this being identical with his. He remarks, "the species fluctuates between Endopogon and Stenosiphonium, but the calyx is scarcely divided down to the middle. Terminal spikes trifid; the axillary ones leafy at the base; smaller leaves roundish. Approaches, S. confertum."

In habit it very nearly approaches S. confertum, from which it is kept distinct by its diandrous flowers.

1503. **Stenosiphonium Russellianum** (Nees, not R. W. Ic. 873), leaves ovate, dentate, naked beneath: bracts rhomboid, obtuse, cuspidate, as long as the calyx.

This I believe is the true plant. The one figured, No. 873, under the same name is, I now find, *S. confertum*, a species not published at the time that plate was named. I therefore request the reader to substitute the following, for the name and character there given.

873. **Stenosiphonium confertum** (Nees, S. Russellianum, R. W. Ic.), leaves broad ovate, dentate, naked beneath: bracts ovato-lanceolate or oblong, obtusely accuminate (shorter than the calyx) and, like the calyx, glanduloso-hirsute: flowers geminate or ternate. Nees, in DC. Prod. Pulney Mountains, Neilgherries, &c.

1504. **Hemigraphis latebrosa** (Nees), leaves ovate, coarsely serrate: bracts ovate, lanceolate, as long as the calyx.—The capitula or spikes, shortened to the form of heads, furnished at the base with two small sharply-serrated leaves, having a long, linear margined petiol. The lower pair of bracts a little broader than the rest, no bracteols: lacineæ of the calyx linear, ciliate and, like the bracts, 1-nerved, the posterior one longer: anthers with one aresta at the base, capsule two and half lines long, thin, 4-angled, six-seeded, from the base, shorter than the calyx. I have some doubts as to this being Nees' plant. A point I cannot now settle from not having the specimen, quoted as belonging to my herbarium, to compare. I may however remark that, if this be really a *Hemigraphis*, of which I think there can scarcely be a doubt, then Professor Nees has not correctly observed the anthers. These he describes in the following words, "antheræ uniloculares, loculo connectivo augusto carinato adnato; superiorum staminum altero loculo in barbam loculo subjectum converso; inferiorum staminum altero loculo omnino deficiente loculo perfecto basi cymbiformi mucronato." All the anthers of my plant are 2-celled, and only the apex of the filaments, of the longer pair of stamens, furnished with a dense tuft of hairs, which Nees has, it appears to me, mistaken for the lower cell of the anther, as he certainly has done in the case of Erianthera.

1505. **Dipteracanthus patulus** (Nees), stem erect; leaves ovate-oval or oval-oblong, obtuse, and, like the ramuli, more or less whitish-puberulous: flowers fasciculato-ternate or quinate (or solitary), short pedicelled: bracteoles oval or oblong, longer than the calyx.—Capsule glabrous, compressed and sterile below the middle, about 12-seeded. Seed convex, glabrous on the outside, somewhat concave and puberulous on the inner face. Corolla pale blue. In flower at all seasons, when there happens to be rainy weather.

A common and generally diffused plant, growing among rubbish and about neglected hedge rows, &c. The seed in this plate is represented much too hairy.

1506. **Asystasia Coromandeliana** (Nees), stem ramous, branches diffuse; leaves cordato-ovate, ovate, or suborbicular; lineolato-rough above: racemes axillary, long-secund, straight, calyx lobes acuminate.—Corolla about an inch long, funnel-shaped, yellow at the base. Capsule an inch long.

Slopes of the Neilgherries at a considerable elevation. The species, however, is common all over the country flowering during the rainy seasons. The specimen represented does not present a characteristic form of the plant; and for some time I supposed it a new species, but the species being variable I cannot find characters by which it can be kept distinct. The flowers in the specimen were nearly white, specked with reddish yellow spots: lilac is the usual colour.

1507. **Leptacanthus Walkeri** (Nees), panicle densely glanduloso-villous: lobes of the perianth linear-filiform, the upper one a little longer: cauline leaves oval oblong, pubescent beneath; floral ones, at least the primaries, ovate, acuminate, small.—Upper branches hairy, leaves with the petiol from 6 inches to a foot long $1\frac{1}{2}$ to 3 inches broad, acuminate or caudato-cuspidate, lacineæ of the calyx narrow, very villous, the upper segment longer, straight: corol 9–10 lines long, cylindrical, ventricose, lobes of the limb sub-repand, dark pink, or purplish coloured.

The specimens represented are from the Neilgherries, where it flowered in great perfection during February and March 1846.

1508. **Goldfussia tristis** (R. W.), shrubby, erect, leaves unequal, elliptico-lanceolate, acuminate, acutely serrated, glabrous on both sides: inflorescence paniculato-spicate; spikes sub-capitate, long pedicelled, drooping few- (above 2-) flowered, involucrate: involucral leaves or bracts? lanceolate acute: lobes of the calyx long, ciliate at the apex: corolla infun-

dibuliform, limb regular, tube very hairy within; stamens monodelphous at the base; anthers oblong: capsule 4-seeded; seeds near the base, the lower ones often aborting, upper oblong, obtuse, sub-truncate, pubescent.

Western slopes of the Neilgherries under shade by the roadside, about 2 miles below Sisparah. Flowering February.

The generic distinction between Goldfussia and Strobilanthes is to me very obscure, and I am unable to say with certainty whether this species belongs to the one or other genus. At first I referred it to Strobilanthes, and fear, on reconsideration, that I have changed for the worse. Leaves with the petiol 6 to 10 inches long, flowers pale blue. Each capitulum, usually only 2-flowered, has 3 pairs of opposite bracts, as shown at fig. 4 of the plate. The pubescence of the calyx is not very well shown in fig. 3, the hairs lengthen as they approach the apex and are there long and matted.

1509. Goldfussia Dalhousiana (Nees), leaves unequal, oval, acuminate at both base and apex, serrated and, like the herbaceous stem, hairy: spikes terminal (and axillary?) oval, glabrous; peduncles erect, straight: bracts roundish, concave, caducous.—Simla, flowering September.

The drawing was made from the original specimen named by Nees.

1510. Goldfussia penstemonoides (Nees), leaves elliptic oblong, attenuated at both ends, unequal, serrated, multuplinevious; spikes terminal, at first capitate, afterwards lengthening and becoming denuded; stem erect, straight, tetragonous.

Hathepoor, Sept. Edgeworth.

The drawing from which the plate is taken was communicated by Mr. Edgeworth, several years ago, but unavoidably left, with many others from the same skilful pencil, unpublished until the present time. As this was, at first, the only species of the genus intended to be introduced I, with a view to rendering the generic analysis more perfect, added, to those of the original drawing, dissections of *G. isophylla*, an authentic specimen of which I happened to have from the Calcutta Botanic garden. They will be found in the upper left hand corner of the plate.

Strobilanthes.

This is a large genus. Nees has therefore found it necessary to divide it, and has grouped the 65 species known to him under 4 heads—viz.

A. Genuini. Spicæ dense strobiliformes.

B. Squarrosi. C. Denudati, and

D. Pteracanthi. Spicæ laxæ, folioseæ, flexuosæ cauleque sæpe alatæ vel sabalatæ. These sections will be noticed under each of the following species by the addition of the sectional letter to their number.

1511. (A.) Strobilanthes sessilis (Nees), suffruticose, very hairy, stem erect, 4-angled: leaves sessile, ovate, acuminate, crenate, spikes axillary, opposite and terminal; bracts ovate, cuspidate.—Stems 2–3 feet high, leaves scarcely an inch long, ovate or sub-cordate, crenate: spikes about an inch: calyx about ½ an inch long, the lobes lanceolate, the two lower ones narrower. Corolla about an inch long, varying from pale blue up to purplish. Stamens shortly monadelphous at the base, joined by a membrane. Capsule oblong, smooth, obtuse or somewhat attenuated at the base, 4-seeded in the middle.

1512. (A.) Strobilanthes sessiloides (R. W.), suffruticose, very hairy all over, stem erect, four-sided: leaves sessile, rotundato-cordate, serrate, bullately reticulate, coriaceous: spikes axillary and terminal, bracts broad cordate, cuspidate, entire.—Very like the preceding, but differs in being generally a larger plant, in the much coarser clothing, in the bullately reticulate leaves, the corolla being much hairyer within. Spikes from 1 to 3 inches long, the margins of the upper bracts tinged with a purplish blush, flowers deep lilac coloured and very handsome. Neilgherries but rare, growing with the other.

1513. (A.) Strobilanthes Perrottetianus (Nees), shrubby, branches reddish, hairy: leaves ovate, caudato-cuspidate, undulato-crenate, hairy, very rough above: spikes axillary, opposite, secund, oval, nodding, dense, hairy; bracts ovate, acute, the interior ones larger, thiner, and coloured; stamens monadelphous.—An erect shrub, 3–8 feet high, thickly covered with brownish-purple bristles, becoming smoother by age: leaves 4–8 inches long, 1 to 2 broad, hairy; peduncles 1–3 inches long, simple or bifid or trifid, naked. Spikes about an inch long, compact, hairy. Corolla pale blue, from 9 to 12 lines long, tube narrow, throat inflated. Stamens incluse united by a hairy membrane, capsule contracted at the base, compressed, 2-seeded in the middle.

Neilgherries, not unfrequent on the outskirts of clumps of jungle about Ootacamund.

1514. (A.) Strobilanthes Wightianus (Nees), shrubby, erect, very hairy, obtusely 4-angled or nearly terete; leaves ovate, petioled, undulato-crenate, rugous: spikes axillary, opposite and terminal: bracts foliaceous, ovate: corolla a little longer than the bracts, lobes emarginate.—Stems 2 to 10 feet high, very straight, erect, or sometimes with a tendency to spread, very hairy with long, thick, articulated, spreading bristles: leaves opposite, 1½ to 3 inches long, about 1 inch broad, very hairy, rugose: peduncles axillary, short, spikes about the size of a cherry, ovate or sub-globose, cernuous. Bracts densely imbricated, spreading at the points, foliaceous; the interior ones membranaceous: corolla 8 or 9 lines long, nearly of the colour of that of Hyociamus niger, and like that reticulated with purplish veins, limb 5-lobed, lobes obovate, emarginate, equal, throat hairy within.

There are two varieties if not distinct species of this plant, the one tall, 4–8 feet, generally found in low marshy ground, as detached plants; the other in high and dry ground, forming dense clumps of low bushes. In the former the flowers are larger and more conspicuous: in other respects they seem so much alike that I refrain from viewing these as two species, though their habits are so distinct, under the belief that the differences depend on the localities in which they respectively grow.

1515–16. (A.) Strobilanthes luridus (W. R.), a large, ramous shrub; branches virgate, bearing the inflorescence on the lower naked portions: leaves oval, oblong, acuminate, pubescent on both sides, finely serrated: spikes ascending, one or two together, opposite: bracts large, orbicular emarginate or slightly

retuse at the apex, dark livid brown; bracteols linear, obtuse, about the length of the calyx: calyx 5-parted lobes lanceolate with a row of bristles on the back: corolla 5-lobed, lateral lobes reflexed, hence apparently bilabiate: stamens united by pairs at the base, all equal, exerted; anthers oblong: capsule about the length of the calyx, somewhat compressed, 4-seeded: seed orbicular, glabrous.

Neilgherries, in woods near Nedawuttem. Flowering January and February 1846. When I visited the station in 1847 and 1848, I did not find it in flower though I found the plant in abundance, hence it seems only to flower once in several years. Corolla deep purplish brown, scarcely exceeding the large dull lurid bracts.

I at first considered this the type of a genus near Strobilanthes and proposed calling it, with reference to the stamens, *Didyplosandra*, thinking that they, added to the peculiar habit, were sufficient to constitute this a distinct genus. But on comparing them with those of *S. Wightiana*, a species (of which I had specimens named by Nees himself) with which they correspond, it did not appear that the other differences were of generic value, or such as to call for its separation from that genus as now constituted. My own impression, however, is, that they, and some others to be noticed, ought all to be removed, and the genera Goldfussia and Strobilanthes, either united or recast on amended characters. As they now stand they can scarcely be said to be distinguishable.

1517. Goldfussia Zenkeriana (Nees), stem fruticose: leaves ovate, acuminate, acute at the base, calloso-serrated, glabrous: spikes axillary, opposite, oblong, sub-involucrate, peduncled: bracts oblong and, with the subulato-acuminate, glabrous lacineæ of the calyx, subciliate: corolla regular: second pair of stamens short.—Stems 4-sided, glabrous, smooth, minutely lineolate, infructuous at the joints: leaves somewhat unequal, including petiol, 3 or 4 inches long and 1½ broad, cuspidato-acuminate, acute at the base, ending in a channeled petiol, closely calloso-serrulate, shining, minutely lineolate above: corolla about an inch long, blue.

Neilgherries, towards the western passes, the Avalanche and Sisparah.

This species, if correctly named, is so very nearly allied to *Strobilanthes ciliatus* that, when naming the drawing, I regret to say rather too hurriedly, I gave it that name. After consideration induced me to change it, and I must now beg leave to propose the transfer of the original *Strorb. ciliatus* along with it to *Goldfussia*, as it is not generically distinct from this species, neither is *S. glabratus* nor *S. decurrens*.

In the drawing the habit of this plant has not been very well preserved, and the flowers seem to me a little too large.

1518. (A.) Strobilanthes asper (R. W.), shrubby, erect, four-sided, young shoots furrowed on two sides, older branches glabrous, ramuli hirsute: leaves unequal, ovate oblong, long petioled, acuminate, crenato-serrate, rough on both sides, venoso-reticulate: peduncles axillary, shorter then the petioles, trifid: spikes compact, ovate: bracts broad ovate, ventricose undulate, attenuated below into a winged petiol, cuspidato-acuminate above; bracteols linear-lanceolate, bristly, as long as the calyx: calyx 5-parted, segments lanceolate, ciliate: corolla twice the length of the calyx, limb campanulate, ventricose above, tube contrasted: stamens incluse, filaments hairy, capsule 4-seeded.

Neilgherries, in woods about Pycarrah. I feel uncertain whether I ought not rather to consider this a species of *Goldfussia*. The two genera seem to me, as they now stand in De Candolle's Prodromus, quite interblended. This is certainly no true congener of *S. Wightianus* though it perfectly associates with many others of the genus. The venation of the leaves is not sufficiently brought out in the figure; the portion fig. 10 gives the best idea of it, but the 4th series of veins is easily made conspicuous with the aid of a lens of low power.

1519. (C.) Strobilanthes micranthes (R. W.), suffruticose, or herbaceous erect, stems 4-angled glabrous; leaves long petioled, broad ovate, serrated, abruptly acuminate, decurrent on the petiol: somewhat hispid above, reticulato-venous and sparingly pubescent beneath: spikes axillary, opposite, drooping: peduncles refract near the apex: bracts ovate, lanceolate, acute; the lower ones foliaceous, pubescent, those above membranous, ciliate; bractioles linear lanceolate, longer than the calyx: calyx lobes lanceolate, exceeding the corolla: corolla campanulate, shortly and orbicularly 5-lobed: stamens equal, exserted; filaments flattened, monadelphous at the base: anthers adnate; ovary 4-ovuled: capsule?

Neilgherries. This species seems nearly allied to *S. mysorensis* and ought, I suspect, to be removed from the genus, along with several others having equal stamens, to form the type of a new genus. It appears to me they might all be associated with *S. lurida* in my proposed new genus *Didyplosandra*. This breaking up of Nees' genus I could scarcely venture upon while examining only a few of his species.

1520. (A.) Strobilanthes Grahamianus (R. W.), shrubby, ramous, 4-sided, older branches glabrous tuberculate: leaves broad ovate, cuspidato-acuminate, slightly crenato-dentate, decurrent on the long petiols, stellato-hirsute above, pubescent beneath, reticulately veined: peduncles axillary or from the naked branches trifid, shorter than the petiols: spikes ovate oblong, glabrous: bracts orbicular, ventricose, the lower ones a little more remote, densely lineolate, sometimes hispid; bractioles none: calyx segments lanceolate: corolla large, longer filaments very hairy: capsule short, compressed, 4-seeded, the lower pair much smaller, all pubescent.

I am indebted to the late Mr. Graham of Bombay for the specimen here represented. The species seems very distinct, but is nearly allied to *S. Heyneana*. The numerous little tubercles or warts shown on the stem, being apparently the product of attacks of insects, ought not perhaps to have been noticed in the character.

1521. Endopogon rhamnifolius (R. W. *Buteræa rhamnifolia*, Nees), young branches and spikes softly whitish hirsute: bracts rhombea-oblong: petiols glabrous.—Stem glabrous below, tuberculate, towards the apex woolly hirsute: leaves, including the petiol, from 2½ to 3 inches long, 1 inch broad, crenato serrated, rough above with scattered bristles, glabrous beneath: the branches of the costal vein, 6 on each side: bracts sub-cuniate at the base, obtuse, or ending in a short acumen at the apex. Nees.

This drawing was prepared, in the hope of its furnishing me with the generic characters of Buteræa, my specimen being an authentic one (viz. Herb. Gardner, No. 1219), named by Nees himself. It however appears from the analysis that Nees must either have fallen into a mistake in referring the species to *Buteræa*, or that there is no actual difference between it and Endopogon.

1522. Goldfussia decurrens (R. W. *Strobilanthes*, Nees), herbaceous, stem 4-sulcated, slightly rough: leaves oval acute at both ends, sub-dentate, glabrous, closely lineolate: spikes axillary, or ternate-terminal, peduncled, oblong, drooping: bracts oblong elliptic, obtuse, broadly decurrent, glabrous, lineolate: flowers with the rudiment of a 5th filament. —Stems flexuose: leaves unequal, the larger one 5 to 8 inches long, entire or scarcely repand: peduncles at first simple, bibracteate about the middle, afterwards trifid, but usually single. Spikes about an inch long, cernuous or drooping: bracts opposite, oblong obtuse, decurrent on the peduncle: flowers solitary, sub-sessile, the pedicel furnished on each side with a short, tooth-like bracteole, "stamina united by pairs at the base, and decurrent in a foliaceous ciliate wing." "Structura calycis ab affinibus valde recedit." Nees.

This species is referred by Nees to *Strobilanthes*, but I cannot help thinking, as the result of hasty examination, I have therefore taken the liberty of transferring it to the genus *Goldfussia*, with which, as I understand these two genera, it accords better.

1523. Strobilanthes Neesiana (R. W.), suffruticose ramuli subterete, glabrous: leaves unequal elliptico-ovate, acuminate, acute, sub-unequal at the base, coarsely crenato-serrated, stellato-hirsute, densely lineolate above, lineolate and sparingly pubescent beneath: peduncles axillary, often trifid, numerous and sub-panicled towards the ends of the branches; bibracteolate about the middle; spikes short, ovato-capitulate: bracts foliaceous, acuminate, retuse at the point, clothed with viscid pubesence: calyx and shorter bracteoles densely pilose: corolla sparingly pubescent without, bristly hirsute within: longer filament hirsute, ovary 4-ovuled.

Neilgherries. This species approaches both *S. Perrottianus* and *S. asper* but is amply distinct.

1524. Adenosma verticellata (Nees), stem ascending and, like the oval oblong serrulato-crenate leaves, hairy: flowers verticelled: lacineæ of the calyx linear-spathulate, obtuse.—Leaves approximated, about an inch long, attenuated below into a short petiol, obtuse, crenulate, minutely punctulate, hairy on the costæ and veins: exterior bracts longer than the interior, obovate, oblong obtuse, attenuated at the base, densely pubescent; bracteoles on the base of the calyx wanting or minute: calyx 2–3 lines long, lobes equal, pubescent, broader above: corolla 4–6 lines long, pubescent, purplish; upper lip vaulted, bidentate, the lower one broad, 3-lobed, the middle lobe larger; palate gibbous, hairy: capsule about 3 lines long, pubescent, 4-sided, many-seeded.

Mysore and Coorg. This species approaches *A. balsamia*, but seems amply distinct.

1525. Gymnostachyum alatum (R. W.), stemless: leaves glabrous, all radical, humifuse, long petioled, cordato-suborbicular, entire; petioles winged: spikes ascending: flowers sessile, solitary, sub-alternate: calyx segments all equal, sub-pubescent, acute: corolla many times longer than the calyx limb, large, ventricose, upper lip emarginate, under 3-toothed: anthers 2-celled, pubescent.

Coorg. The ovary represented fig. 6, belongs to this species—the capsule fig. 7 to another. Figures 8, 9, 10, 11 and 12 are taken from very young flower-buds, long before expansion.

Along with this I received specimens of another species, very nearly allied to *G. cylanicum*, which I have named *G. polyanthum*, with the following character.

G. polyanthum (R. W.), glabrous, flowers fascicled, on slender glabrous racemes: fascicles short peduncled, sub-aggregate: fascicles furnished with minute subulate bracts, glabrous: leaves cordato-orbicular, subcuspidato-acuminate; petiols wingless: calyx lobes equal, subulate: corolla cylindrical: anthers 2-celled, cells parallel, distinct, except at the apex, ecalcarate: capsules slender, about 9 lines long, many-seeded.—The capsule valve, shown fig. 7, is taken from this species. In one of the flowers examined I found 3 perfect stamens.

1526. Calopaanes vagans (R. W.), shrubby, diffuse, climbing: leaves oval or sub-ovate, petioled, entire: preduncles axillary, longer than the petiols, cymose 2–5-flowered and with the calyx sub-viscoso-pubescent: calyx lobes subulate about half the length of the bilabiate corolla: anthers bi-calcarate.

Coorg, climbing among bushes. Ramuli 4-angled, rough on the angles: leaves from 1 to 2 inches long, slightly pubescent on boths ides: corolla, before expansion (fig. 3), pubescent: seed hairy.

1527. Leptacanthus alatus (R. W.), shrubby, panicles racemose, numerous on the naked branches, or in single axillary racemes on the leafy ramuli: leaves oval oblong, acuminate, entire, decurrent on the petiol, amplexicaul, glabrous: peduncles, bracts, and calyx, thickly beset with long bristly hairs: lobes of the calyx linear obtuse, much longer than the bracteoles: longer filaments hairy.

Coorg. Leaves from 6 to 10 inches long, dark green above, pale beneath; petiols winged with the decurrent limb of the leaf. A very distinct species, of which, however, for want of room, the figure gives an imperfect idea.

1528. Barleria Hochtetteri (Nees), fruticose, branches strigiloso-tomentose, trichotomous at the apex; ramuli trifid, 3-flowered or one-flowered with 2 bracts: leaves oval obtuse sub-mucronate, strigilose: bracteoles lanceolate entire and, like the larger oval acute equal entire lobes of the calyx, glanduloso-pubescent; tube of the corolla smallish.—A low shrub, very ramous; branches whitish-pubescent, leaves from $\frac{1}{2}$ to 1 inch long, 4–5 lines broad, obtuse: flowers horizontally nodding.

I am indebted to Mr. Stocks of Bombay for the drawing here published, and for specimens of this curious species; a native of Scinde and Arabia.

1529. Barleria Courtallica (Nees), stem fruticose, leaves oblong, attenuated at the base and apex, glabrous, shining: spikes axillary and terminal, short, glanduloso-hirsute: bracts and bracteoles, linear-subulate: larger lacineæ of the calyx about equal,

oval oblong, attenuated at the apex: anthers of the shorter stamens imperfect, acute at the base.—A large shrub, branches dichotomous: leaves 5–7 inches long, $1\frac{1}{2}$ to 2 broad ending in a long tapering point, flowers opposite, subsecund, sessile; bracts minute, subulate, bracteoles linear: larger lobes of the calyx viscoso-pubescent, palmately nerved, entire, bidentate at the apex: corolla nearly 2 inches long, lobes obtuse: anthers oblong incumbent: capsule about the length of the calyx, the angles pubescent near the apex.

Courtallam, flowering during the rainy season between July and September.

1530. Lepidagathis Walkeriana (Nees), herbaceous, glabrous, leaves ovate, oblong, acuminate, obtusely dentate; entire at the base and attenuated into the long petiol: spikes axillary, trichotomously compound, crowded, peduncles shorter than the leaves: bracts herbaceo-scarioso about half the length of the calyx, and, like the oblong somewhat obtuse exterior lobes of the calyx, 3-nerved; bracteoles, like the bracts, narrower, somewhat acute, 1-nerved.

My specimens of this species are from Courtallum, and possibly may not be identical with Nees,' but the character seems to me to correspond so well with my figure as scarcely to admit of my entertaining a doubt on the subject.

1531. Neuracanthus Lawii (R. W), shrubby, branches terete, glabrous, smooth: leaves sessile, subcordato-ovate, obtuse or ending in a short blunt acumen, slightly rough, pale whitish beneath: spikes sessile, capitulate, axillary, copiously pubescent: bracts large, sub-orbicular, about as long as the calyx; bracteoles none: calyx deeply two-lipped; upper two-parted, under three-cleft; lobes lanceolate: corolla sub-regular, obscurely 2-lipped (plicate in æstivation?), 5-toothed; teeth tipped with tufts of hair: stamens 4, incluse, hairy; anthers 2-celled; one of the cells of the shorter pair, sterile, divaricate, clavate: capsule 4-seeded.

Bombay, Law. "This though common, even in the Island of Bombay, does not seem to be in Graham's catalogue." Law, MSS.

I am indebted to Mr. Law for the specimen here figured. It seems to accord well with the generic character of *Neuracanthus*, but is most distinct from Nees' only species. I dedicate it to the discoverer.

1532. Neuracanthus trinervius (R. W.), shrubby, branches terete, glabrous, smooth: leaves short petioled, sub-obovate, mucronate, glabrous: spikes axillary, secund, dense, the terminal one about the length of the leaves: bracts ovate, acute, coriaceous, rigidly 3–5-nerved, densely hirsute, bracteoles none: calyx sub-bilabiate, lobes lanceolate pubescent: corolla sub-bilabiate, obscurely 5-lobed; lobes tipped with a tuft of hair: stamens four, longer filaments hairy: anthers 2-celled; 1 cell of the shorter ones sterile, divaricate; ovary 2-celled, with two ovules in each.

Salsette, Bombay; Law. I am indebted to the same liberal contributor for both these very local plants, neither of which appears to have been hitherto described.

1533. Ætheilema reniforme (Nees), stem herbaceous, and like the ovate, unequal at the base, repand leaves, pubescent; one of the leaves smaller: bracts reniform and with the upper ovate membranaceous lacinea of the calyx ciliate.

The specimens here figured were gathered in Paulghaut growing by hedge rows. The plant seems to be a rare one, as I have scarcely ever met with it. It is a ramous, somewhat diffuse, herbaceous plant, everywhere slightly clothed with very short pubescence, on the bracts and calyx only it becomes longer: bracts pale whitish coloured, membranous, seed ciliate.

1534. Blepharis asperima (Nees), proper bracteoles quarternary, white reticulated with green lines at the base, alternate, cuniform, trifid or lanceolate. Leaves opposite.

Mysore, Belgaum, Coorg.

Apparently a diffuse plant with very rough leaves: every part more or less beset with bristly hairs, and a line of them running alone each side of the branches from leaf to leaf, but neither so numerous nor so conspicuous as the lithographer has represented them in the figure. The opposite, not whorld leaves of this species, present a ready distinctive mark.

1535–36. Acanthodium grossum (Nees), low, branches procumbent, ascending, and like the linear lanceolate, margin revolute leaves, very rough: bracts rhomboid, spinosa-dentate, hirsute on the veins: spikes crowded on the centre of the ramifications, ovate, oblong, sessile.

Scind, Stocks.

Mr. Stocks sent me specimens and a drawing of this plant under the name of *A. hirtum:* on comparing them with the characters of *A. grossum* I certainly think they quadrate better with them, than with those of *hirtum.* But while I have arrived at this conclusion, I am hardly prepared to say that Mr. Stocks is wrong; on the contrary, on taking collateral circumstances into consideration, I would now, had I the plant to name, adopt his name in preference, and the more readily as I cannot see in what the two species differ. Perhaps my figures contain both.

1537. Phloganthus latifolius (R. W.), shrubby, erect, 4-sided, glabrous: leaves long petioled, broad ovate, entire, cuspidato-acuminate, sub-truncate at the base: spikes trifid, axillary, shorter than the petioles: flowers sessile, opposite or alternate on the rachis: calyx lobes subulate: stamens exserted: anthers apiculate, cells contiguous: ovary 12-ovuled: capsule linear, 12-seeded.

Coorg jungles.

In the generic character Nees gives it a 2-celled, compressed capsule, with the upper portion of the cells 4-seeded, and in his essential character "capsula a medio 4-sperma." In this species I find 12 seed, and in *P. thyrsiflorus* eight, whence it seems probable that, in this genus, the number of ovules will be found to supply good specific characters.

1538. Hemichoriste montana (Nees), glabrous: leaves oblong, oval, entire, cuspidato-acuminate, tapering into the petiol: bracts and bracteoles, subherbaceous or membranous, obtuse, a little longer than the pedicel: flowers pedicelled; coralla deeply 2-lipped: stamens two (shorter ones altogether want-

ing in these specimens) inserted on the very hairy throat of the tube: capsule contracted, stipitate at the base, 4-seeded above the middle: seed rough.

Koondahs (Neilgherries), Wynaud, Coorg. I suspect the plant figured is a different species from the one described by Nees as he describes his as having "Folia opposita, inferiora 7–8 poll, longa, 2 ad summum lata, oblonga, acuta, basi cuneatim inpeteolum attenuuta integerrima glaberrima lævia." With the exception of the cuniate leaves, the two plants seem pretty well to agree with this description, but mine is diandrous his tetrandrous.

1539. Rostellularia procumbens (Nees), stems procumbent or ascending and, like the ovato-lanceolate or oval, ciliate leaves, hirsute: spike subtetragonous: calyx 4–5-parted and, with the lanceolato-linear equal bracts, hirsute, ciliate: capsule oblong, equaling the calyx.—The essential distinctive mark of this species consists in the rigid setiform articulated pubescence, often reversed on the stems, with which every part, but especially the calyces, is covered.

A common and variable plant, very liable to be confounded with *R. diffusa*, also with *R. mollissima;* with the character of which last, the figure so much accords, that I feel doubtful whether I ought not rather to have referred it to that species.

The drawing was made at Ootacamund, from native recent specimens.

1540. Rostellularia hedyotidifolia (Nees), stem erect, divaricato-ramous from the base, and, like the ovate sub-crenate acute leaves, roughish: spikes terminal, and, towards the ends of the branches, axillary, short, interrupted at the base: calyx 4-parted, lobes lanceolate, membranous on the margin, glabrous: bracts equaling, bracteoles shorter than the calyx, setaceous on both sides.

The station whence the specimens were obtained is not marked. It is a small, very ramous shrub, and is assuredly most characteristically named, the whole plant having a most Hedyotis-like appearance. The leaves turn black in drying. The figure conveys a good idea of the plant, with the exception of the spikes, which seem a little too large.

1541. Rostellularia gracilis (R. W.), repent, stems erect, ramous, glabrous: leaves oblong, oval-lanceolate, pointed at both ends, sessile, entire, slightly revolute on the margin: spikes terminal, short; bracts sub-lanceolate, subulate, pointed, longer than the calyx: calyx 5-parted, lacineæ subulate, glabrous.

Station not marked with the specimens.

The figure conveys a very imperfect idea of the slender graceful form of this species. The tallest of my specimens is nearly a foot long the leading shoot giving off a succession of branches, each of which is again more or less ramous and each terminating in a short secund spike. The leaves, as shown in the drawing, are too large, especially on the branches and ramuli, but preserve well the outline form. The species seems too nearly allied to R. diffusa, if indeed it is not one of the very many varieties of that species.

1542. Rostellularia simplex (R. W.), root somewhat repent; stems erect, simple, 4-sided, and, with the veins on the under surface of the leaves, more or less thickly beset with rigid bristly hairs: leaves oblong, oval, lanceolate, blunt; glabrous above, but marked with numerous transverse lineoles: spikes terminal, longish: bracts about the length of the calyx, and like it, pectinato-bristle ciliate on the margin: costa below beset with similar bristles. Station not known.

The pectinate bristles on the bracts and calyx, with the transverse lineoles on the leaves, added to the simple erect habit of the plant, mark this as a very distinct species.

1543. Leptostachya Wallichii (Nees), leaves oblong, or oblong oval, punctulato-rough above: spikes glandulose: anthers muticous.—Shrubby, glabrous, ramuli terete, smooth: leaves 6 to 8 inches long, tapering at both ends, thin sub-membranous: panicles racemose, ramuli glanduloso-pubescent, flowers opposite; bracts and bracteoles shorter than the calyx.

1544. Adhatoda Neilgherrica (Nees), leaves lanceolate, sessile, glabrous, smooth: spikes terminal, 4-sided; bracts and bracteoles ovate, acuminate, venoso-3-nerved, glabrous.

Neilgherries, frequent in pastures about Ootacamund, where it is always in flower. A low, procumbent plant, lying flat on the ground, but rendered conspicuous from the grass, among which it grows, by its numerous pale coloured spikes, which ascend a little above the rest of the plant.

1545. Adhatoda Wynaudensis (Nees), shrubby, stems terete, slightly lineolate; leaves oblong, attenuated at both ends, strigous above, the lower ones crenato-dentate: spikes axillary, spreading or drooping, occasionally diphyllous at the base, glanduloso-pubescent: flowers solitary opposite; bracts ovate, deciduous and, like the linear subulate bracteoles, shorter than the calyx.

Eastern slopes of the Neilgherries on the banks of the stream near Burliar. The general aspect of this plant is so unlike that of the other species of the genus with which I am acquainted, that it was long before I recognised this as a species of *Adhatoda.*

1576. Justicia livida (Hamilton, Nees), leaves oblong, acuminate at both ends, glabrous, shining; petioles obtusely margined (or immarginate): spikes terminal, 4-sided: bracts oval, long, cuspidate, repando-subdentate, ciliate, somewhat shorter than the capsule: upper lip of the corolla linear, reflexed.

Courtallum. A low growing shrub, leaves glabrous, 6–8 inches long, $1\frac{1}{3}$ broad, acuminate, glabrous: corolla pubescent, tube slender, about an inch and half long, upper lip narrow, under broadly 3-nerved.

1547. Rungia pectinata (Nees), stem diffuse, geniculato-repent: fertile bracts orbiculate, membranaceous, mucronulate or muticous, 3-nerved, villous and ciliate with a broad entire membranaceous margin; sterile ones ovato-cuspidate, villous, subemarginate, 3-nerved; interior bracteoles entire, linear lanceolate, broadly membranaceous, emarginate, ciliate: leaves oval, obtuse, rough on the veins.

Hab? The station whence the specimens were obtained is not stated, but I have others from Mergui, whence I infer Malabar as the most probable station. Nees describes the stem as creeping;

my specimens, if the true plant, rather convey the idea of growing erect, or at all events loosely ascending.

1548. RUNGIA LATIOR (Nees), leaves subovate or oval, moderately attenuated at both ends, somewhat obtuse: stem diffusely repent: corolla longer than the bracts, upper lip acute: bracts uniform, obovate, retuse, shortly mucronate, 3-nerved, ciliate, margin membranaceous; "bracteolis subulatis."

Ootacamund, flowering during the autumnal months, growing among bushes and long grass, about the sides, treams, and the outskirts of damp woods.

I feel somewhat at a loss regarding the last two words of the specific definition, as I have not been able to find a trace of bracteoles beyond those shown at fig. 1 of the plate. The figures of the anthers are not good though, in the main correct as seen when simply lying on the field of the microscope. To show their proper structure they require to be separated, when it is seen that the appendage, shown on the back of the anther, is a prolongation of the upper cell, and that the lower one has an orbicular tip. I however believe that this is truly the plant named.

1549. RUNGIA WIGHTIANA (Nees), suffruticose, erect: leaves ovate oblong, much attenuated at the apex: bracts veined, the margins hyaline towards the apex, most delicately (subtilissime) ciliate; sterile ones oblong, acute, the fertile ones rhombeo-cuniform, obtuse; bracteoles membranaceous, oval, mucronulate; spikes lax, terminal.

Courtallum, during the rainy months.

I am not sure that I rightly understand Nees' views of the bracts and bracteoles of this genus. In the generic character he says, "Spica quadrifarum bractiata * * ordinum duorum superiorum vacuis, inferiorum unifloris." I find in this species two rows of sub-lateral alternate empty bracts along the back of the rachis, one to each flower, other 2 rows on the opposite side, each with a single flower and two broad lateral membranaceous bracteoles in its axil. Fig. 4 of this plate shows the flower and bracteoles, figure 3, is the fertile bract; and fig. 2 gives a view of a portion of the back or sterile side, with four of the sterile bracts. Hence it follows that to each flower there are two bracts, one sterile and one fertile, and two conformable bracteoles, not 4 bracts and two bracteoles, which the concluding words of the definition of R. latior gives us reason to suppose, as I find, what I conceive to be its bracteoles, not subulate, but obovate, cuniate, obtuse, like the fertile bract, but all three different from the sterile one.

In this species the fertile and sterile bracts are nearly conformable, the bracteoles much shorter and sub-orbicular. The capsule is not correctly represented, it opens like that of Dicliptera, No. 155, p. 52.

1550. RUNGIA ARNOTTIANA (R. W.), shrubby, erect, glabrous, branches terete: leaves broad elliptic, attenuated at both ends, decurrent on the long, and thence winged, petiol: panicles terminal, compact, branches trifid, spikes short, dense: bracts obovate, scarcely membranous on the margin, finely pubescent, bracteoles oval, mucronate, hyaline: calyx sub-villous, posterior lobe a little larger: upper lip of the corolla entire, pointed.

Courtallum. This species seems very near if not indeed too nearly allied to R. Wightiana, and may prove only a very luxuriant variety but, so far as can be judged from specimens, it is distinct.

1551. DICLIPTERA BIVALVIS (Juss.), leaves ovate oblong, acuminate, acute at the base, lineolate, hispido-scabrous: peduncles axillary, longer than the petiols, trifid: capitula 2 or 3-flowered: bracts broad ovato-roundish, aristato-mucronate, 5-nerved, hispid, margin naked.

Courtallum. A very distinct and easily recognized species.

1552. DICLIPTERA CUNIATA (Nees), leaves ovate, obtuse or acute at the base and, with the stem, minutely lineolate, glabrous: peduncles axillary, longer than the petiols, 3–5-cleft: common involucrum shorter than the umbel, subulate; partial involucrum diphyllous; leaves cuniform, mucronate, pubescenti-scabrous,

Courtallum, flowering during the autumnal rains.

1553. PERISTROPHE MONTANA (Nees), leaves oblong, attenuated at both ends, lineolate and, like the stems, glabrous: umbels axillary and terminal, five-cleft: capitula 3–5-flowered: involucrum diphyllous; leaflets equal, ovato-elliptic, obtuse, mucronulate, glabrous.

Courtallum, flowering during the rainy autumnal months, flowers pink coloured. A beautiful species but rare. I have not found it in any other station. The flowers are nearly 2 inches long, and the involucra coloured.

1454. RHAPHEDOSPERA GLABRA (Nees), peduncles axillary, many-flowered; leaves ovate, attenuated at the apex, glabrous.

A common plant, growing about hedge rows and clumps of trees all over the country, flowering during the cool season.

1555. HYPOESTES MALACCENSIS (R. W.), herbaceous, erect, stems 4-angled: leaves entire, ovato-lanceolate, acuminate, sub-villutinous, acute at the base: spikes short, sub-capitate, axillary and terminal, the axillary ones short peduncled, with occasional solitary axillary flowers: bracts lanceolate, shorter than the tube of the villutino-viscid 1-flowered involucrum: leaflets of the involucrum cohering below, the inner ones smaller, all lanceolate: calyx 5-cleft, about the length of the tube of the involucre: upper lip of the corolla longer than the lower, acute or bidentate: stigma undivided.

Malacca, Capt. A. C. Wight. I have no knowledge of this species, nor indeed of the genus, beyond what the specimens supply.

1556. HAPLANTHUS NEILGHERRYENSIS (R. W.), herbaceous, ramous, declining; branches axillary, opposite, shorter than the leaves: flowers racemose on the ends of the branches and stem: leaves hispid, elliptic, oblong, acuminate, long petioled; petioles winged: flowers opposite from the axil of a minute leaf; calyx 5-parted, small and, like the numerous bracts, setaceo-hispid: bracts linear, 2–3-toothed at the apex: anthers two-celled, both polleniferous with a dense tuft of wooly pubescence on the back.

Neilgherries, and Coorg jungles; Monro, Jerdon. This species seems nearly allied by characters to *H. tener*, but is very distinct in habit. According to the generic character the anthers should have only one cell, "Antheræ uniloculares, connectivo loculoque altero abortivo tomentosis villosisve." I cannot speak with equal certainty regarding the others but in this species there are certainly two polleniferous cells. The corolla is scarcely 2-lipped, more properly 5-lobed, sub-regular.

1557. Andrographis lobelioides (R. W., *Erianthera*, Nees), herbaceous, diffuse, procumbent: leaves subovato-orbicular, mucronulate, flowers terminal, racemose.

Neilgherries, rather frequent in pastures, nestling among the grass, but quite conspicuous from its tufts of brownish purple flowers. Nees has separated this and a nearly allied species from Andrographis under the name of *Erianthera*, on account of the anthers. "Antheræ loculus inferior abortivus in barbum laniformem solutus." As this is certainly not the case in either of the two species, I have taken the liberty of restoring both to *Andrographis*. See plate 517. The tuft of wool in this species is on the back of the connectivum, but not well shown in the figure.

1558. Andrographis Wightiana (Arn.), herbaceous; stem and branches glanduloso-hirsute: leaves sessile, sub-cordate, attenuated towards the point or ovate, short petioled, glabrous, rough on the margin: racemes axillary and terminal, simple or bifid: flowers short pedicelled; lacineæ of the calyx subulate: fruit about 12-seeded.

Malabar. A very distinct and easily recognized species, of which the figure gives a very correct representation. Its light slender habit is quite characteristic. Leaves pale, when dry almost whitish, beneath.

1559. Andrographis viscosula (Nees), suffruticose, diffuse, ramous; and, like the oblong lanceolate leaves, glabrous: racemes terminal, trifid, glanduloso-pubescent: flowers secund: capsule oval, 8-seeded.

Courtallum. A low diffuse ramous plant, flowering during the autumnal months at Courtallum. In the figure the secund habit of the racemes has not been preserved; a defect partly attributable to too much care having been bestowed in the preservation of the specimens in which this distachyous form exists, but is also, in part, owing to the want of observation of the artist. The apparent hairs on fig. 8, are principally lineoles, not hairs.

1560. Andrographis Ceylanica (Nees), herbaceous, stem hirsutulous: leaves oblong, lanceolate, usually short petioled, strigose above, pubescent beneath: racemes axillary and terminal, secund, glanduloso-pubescent: flowers pedicelled: lacineæ of the calyx subulate: capsule oblong linear, hairy, 10-seeded.

Courtallum, flowering during the rainy autumnal months. In the figure the petiols are represented considerably too long, and the flowers are not shown secund though they are so in the specimen. Defects of that kind can scarcely be altogether guarded against in the case of native artists who have no idea of the consequence; and I can now only express my regret that the hurry of official business prevented me looking better after his labours when making the drawings.

1561. Andrographis Neesiana (R. W.), herbaceous, erect, nearly simple, acutely 4-angled, glabrous except round the joints, where it is furnished with a ring of short brown hair: leaves hirsute, elliptic oblong, acute at both ends, short petioled: panicles terminal, contracted; branches trifid: calyx and corolla glanduloso-pubescent, capsule linear, hirsute, about 8-seeded.

Pulney Mountains, very abundant in moist soil, near the banks of streams, plant from 2 to 3 feet high, leafy towards the apex, very sparingly branched, each branch ending in a dense tuft of rather large brownish purple flowers. So far as I am acquainted with the genus, it is one of its finest species, hence I have dedicated it to the accomplished Botanist whose labours have thrown so much light on the whole order.

1562. Strobilanthes campanulatus (R. W.), herbaceous, erect, ramous, four-sided; angles rounded: leaves broadly ovate, or sub-cordate at the base, cuspidately acuminate, pilose on both sides: spikes axillary, capitate, peduncled: bracts glabrous, somewhat shining, sub-orbicular; bracteoles about the length of the calyx: flowers scarcely exceeding the bract, tube short, limb campanulate, equally 5-lobed and, like the longer filaments, hairy within.

Coorg. A small herbaceous plant, judging from 3–4 specimens, from 6 to 10 inches high, every where, except the bracts, which are smooth and polished, more or less pilose, lobes of the corolla revolute, short.

1563. Ruellia? punctata (Nees), leaves oval, attenuated at both ends, entire or sub-repand, glanduloso-punctuate, and, like the four-sided herbaceous stem, hirsute: capitula terminal, bracteate, pubescent: bracts foliaceous, acute; bracteoles, linear oblong, closely ciliate: calyx 4- (?) cleft.

"Courtallum. Strobilanthes? Herb. Wight No. 656." The specimens figured are those referred to. The longitudinal section of the ovary, showing only 4 ovules, at once proves that this is no Ruellia, the character of which is to have from 6 to 16 seed. I have notwithstanding retained Nees' generic name as, though deficient in that one technical character, it must possess, in considerable perfection, all the others by which the two genera are distinguished, and may therefore be admitted a representative of that genus, my other specimens being too imperfect to furnish a suitable figure.

1564. Lepidagathis longifolia (R. W.), herbaceous, erect, branches terete, obtuse, except the inflorescence: leaves from elliptic acute at both ends, to long linear lanceolate, acuminate, quite entire: spikes axillary and terminal, lax, ascending or sometimes drooping, furnished along the back with a row of bracts and 2 unequal bracteoles on the pedicel of each flower, all, like the calyx, clothed with viscid pubescence: posterior lobe of the calyx larger than the anterior pair, cuspidate; lateral ones within the posterior lobe linear subulate: cells of the anthers calcarate.

Malacca, Griffith. This species seems to me to approach *L. laxa*, from which however it appears distinct. I am indebted to the late Mr. Griffith for the specimen figured which consists of two pieces, one with erect, the other with drooping inflorescence. I have taken the last on the supposition that it is the normal form.

1565. Congea tomentosa (Roxb.), see table 1479—2.

1566. Congea velutina (R. W.), see 1479—3.

1567. Utricularia stellaris (Lin. fil.), stems floating, utriculiferous; leaves filiform, verticelled: scape furnished at the base of the raceme, with a whorl of ovate floats or bladders, setiferous at the point: scales wanting below the floats: bracts membranaceous, obovate, embracing the base of the pedicel, no bracteoles: lobes of the calyx ovate obtuse, shorter than the corolla, entire: spur short, obtuse: capsule globose, about the length of the calyx: seed flattened, bound with a membranous wing. Flowers yellow.

In standing sweet water in the Tanjore district, and also in the Circars. So far as I have observed, it seems rare on the western coast.

1568. Utricularia fasciculata (Roxb.), stem and leaves as in *U. stellaris* except that it wants the floats on the raceme: scape furnished with a few scales: bracts ovate, without bracteoles: calyx ovate obtuse, much shorter than the corolla: spur conical blunt, shorter than the lip: lips entire, lower one bullate near the base: fructiferous pedicel thickened, drooping: capsule globose, about the length of the enlarged spreading lobes of the calyx: seed 5-angled, bound with a narrow wing. Flowers yellow.

In sweet standing water in Malabar, apparently not unfrequent. The raised pallate or bullate portion of the lower lip, is tinged with a reddish, or deep orange, colour.

1569. Utricularia diantha (Ræm. and Sch.), floating or terrestrial: leaves capillary utriculiferous when floating, linear subulate when growing in marshy ground: scape filiform, erect, usually 2-flowered: bracts ovate, bracteoles none; calyx obovate obtuse, not enlarging with the fruit: spur longer than the lower lip: lips entire, about equal, lower one bullate near the base: capsule spherical, about twice the length of the calyx lobes: seed compressed, orbicular, bound with a broad wing.

In standing sweet water in Malabar along with the preceding. The flowers of the two species, except as regards size, are much the same, and they are in other respects nearly allied species.

1570. Utricularia punctata (Wall. DC.), "leaves submerged, capillaceo-many-cleft, the extreme divisions filiform, curved, sparingly utriculiferous: scape erect, 4–5-flowered: scales and bracts oblong, auricled at the base, obtuse at both ends: pedicels as long as the flowers, much longer than the bracts, lobes of the calyx broad, oval, obtuse: corolla." Seed flattened, orbicular, bound with a toothed margin.

Mergui, Griffith.

The specimens from which the accompanying drawing was made are all imperfect as regards flowers, but the plants are in other respects perfect, and seem pretty well to correspond with DC.'s character of the species. He doubts whether his plant belongs to his section "Lentibularia," a point which I will not attempt to determine because I do not think the section one of much value even as an artificial division. For myself I feel quite satisfied that this and the three preceding species form, with perhaps many others, a most distinct and peculiar group, distinguished by habit, calyx, corolla, capsule, and seed; in all of which respects they are very different from the following species. De Candolle describes the bracts and scales of his plant as "auricled" at the base and obtuse at both ends. In my specimen they are attached by the base, whence there seems reason to suspect that I have misnamed my plant in applying his name. He further describes his plant as having 4–5 flowers; one of my specimens has the marks of 17 flowers, and all have more than six. These considerations, and especially the free base of the bracts and scales, lead me to suspect we have different plants before us, but yet they are both from the same station and very like in every thing except the insertion of the bracts, which circumstances added to the remark "Bracteæ $\frac{1}{4}$ lin. long supra inferiorem partem non tamen medio ad fixæ solitariæ," induced me to adopt his name.

1571–1. Utricularia arcuata (R. W.), erect, bifid, branches about equal: scales very minute: bracts subulate, small: calyx lobes equal, broad ovate, obtuse, much shorter than the corolla and spur, scarcely enlarging in fruit: spur long, slender, curved upwards under the broad suborbicular under lip of the corolla; capsule ovate: seed oval, rounded at the ends, longitudinally reticulate. Flowers blue.

Belgaum, Law. I know nothing of this species beyond what I learn from the specimen, for which I am indebted to Mr. Law of Bombay.

1571–2. Utricularia reticulata (Smith), stems twining: scales remote: bracts and bracteoles ovate, acuminate, acute, much shorter than the pedicels: pedicels about the length of the flower, at first ascending, afterwards cernuous; winged towards the apex: calyx lobes equal, ovate acute, enlarging with the capsule, the lower one about the length of the spur: spur conical acute, descending: upper lip of the corolla large, suborbicular, or tending to obovate; under large, spreading, palate galeate: capsule ovate, compressed, inclosed within the enlarged calyx lobes: seed oval, obtuse at both ends, longitudinally reticulate. Flowers blue.

Malabar, flowering March, April and May. Frequent in rice fields where in large masses its numerous conspicuous blue flowers render it a very ornamental object.

1572–1. Utricularia Wallichiana (R. W., *U. capillacea*, Wall., non Willd.), filiform, slightly twining: bracts broad, ovate, acute; bracteoles subulate: flowers longish pedicelled, yellow: calyx lobes ovate, acute: spur tapering pointed, longer than the calyx: lips entire, upper one obovate, suborbicular; lower one broad, emarginate: capsule lenticular: seed oval, obtuse at both ends, slightly longitudinally reticulate. Flowers yellow.

A low plant 3–4 inches high, growing among grass in marshy grounds. My specimens are from Courtallum, Serra Mallay, and Neilgherries. From the last the drawing was made.

I learn from Dr. Arnott that this is *U. capillacea* of Wall. List, but it does not seem to be Willdenow's plant.

1572–2. Utricularia humilis (Vahl), scape angled, furrowed, erect: scales few, sub-lanceolate: bracts ovate acute: flowers short pedicelled: calyx lobes broad ovate, blunt, becoming nearly orbicular in fruit, about the length of the pedicel: spur nearly twice the length of the calyx, tapering, acute: lips entire, upper one sublinear, truncate, under sub-orbicular: capsule lenticular, drooping: seed oblong, ovate, nearly acute at one end, longitudinally reticulate. Flowers yellow?

Ceylon, Mysore, Malabar. I have specimens from several localities but most abundant from Ceylon.

Vahl does not mention the colour of the flower, and those of my specimens have faded so much as to leave me in doubt on that point. The species is a very easily recognized one, but the draftsman has not succeeded in conveying a good idea of it though the figure is like the specimen. The broad ovate and ultimately nearly orbicular calyx lobes and pendulous fruit are very striking. My specimens vary in height from 2 to about 8 inches.

1573. Utricularia uligenoides (R. W.), stem simple or sparingly ramous, twining: scales few, ovate, acute; bracts broad, ovate, acute; bracteoles subulate, all much shorter than the pedicel: pedicels 4–7, secund, cernuous, filiform, about the length of the flower: calyx ovate, lanceolate, acute or cuspidate, about half the length of the spur: spur conical, longer than the under lip: upper lip sublinear, orbicular at the apex: capsule compressed, sub-orbicular: seed globose sub-scrobiculato-reticulate. Flowers blue.

Courtallum, in low wet ground twining on stalks of grass. I am not quite certain whether this is sufficiently distinct from *U. uligenosa.* In habit it is so, but in characters they very nearly approach.

1574. Utricularia uligenosa (Vahl), stem erect, simple, slender, with few scales: leaves linear, spathulate: scales oval, acute; bracts broad, ovate with two smaller bracteoles: pedicels twice or thrice the length of the bracts, cernuous: calyx lobes slightly unequal, broad, ovate, acute, the lower one shorter, about the length of the spur: spur conical acute, about the length of the lower lip: lips entire; upper one broad, roundish above; the lower galeate, very convex on the palate, hairy on the throat: capsule ovate, compressed: seed globose, finely reticulate. Flowers blue.

Neilgherries, in swampy ground, not unfrequent; I have also met with it forming dense masses of matted herbage floating on the surface of streams, but, in such situations, never in flower.

1575. Utricularia conferta (R. W.), cespitose, stems ascending, filiform, simple or sometimes sparingly ramous, intertwining: leaves linear-spathulate: scales minute, ovate, pointed: bracts and bracteoles like the scales, but larger: pedicels slender, winged towards the apex, cernuous or drooping, longer than the flowers: calyx lobes lanceolate, acute: spur slender about the length of the under lip, longer than the calyx: lips entire, linear, roundish; under broad, galeate, reflexed on the margins: capsule globose lenticular: seed globose, reticulate. Flowers blue.

Courtallum, on rocks in mountain streams exposed to the spray from dashing water. My specimens were gathered in August and in April, and in full flower at both seasons.

These three species are certainly very nearly allied and might all perhaps be included under Vahl's brief character of *U. uligenosa:* "nectario conico, calycibus corollum equantibus, capsulis compressis, scapo anguloso subsimplici," Vahl. While at the same time none of them actually quadrate with his definition. Had the lips of either of them been divided I should have referred it to *U. graminifolia.* The second is perhaps more justly referable to Brown, *U. cyania*, than to *uligenosa.*

1576. Utricularia Griffithii (R. W.), scape ascending, lax, sometimes twining (5–6-flowered): leaves linear, spathulate: scales few, minute: bracts ovate, acute: calyx lobes ovate acute, shorter than the pedicels: spur conical acute, descending, longer than the calyx, shorter than the lip: upper lip entire, obtuse; under dilated, orbicular, emarginate: capsule lenticular: seed lenticular, deeply foveolate. Flowers blue.

Malacca, Griffith, apparently a rather tall growing species, frequenting shallow water. Roots long and matted, scapes from 8 to 12 inches high, having a lax diffuse appearance not shown in the figure. The seed are remarkable, the testa apparently thick, and deeply foveolate, the foveæ translucent on the margin, giving, when pretty highly magnified, the wing-like appearance shown in the plate.

1577. Utricularia Smithiana (R. W.), scape ascending, somewhat voluble, terete: leaves few. spathulate: scales remote, minute, ovate, pointed: bracts broad cordate; bracteoles narrow lanceolate: calyx lobes slightly unequal, the posterior one broader, obtuse, the anterior acute, shorter than the lax filiform pedicel: spur conical, about the length of the lower lip, longer than the calyx: lips entire, lower one galeate: capsule lenticular, enclosed within the enlarged lobes of the calyx: seed globose scrobiculate.

Malabar or Coorg, the exact station uncertain. This species is nearly allied to *U. reticulata*, but is certainly distinct. It attains the height of from 12 to 18 inches, the latter ones twine.

1578–1. Utricularia brachypoda (R. W.), erect, simple; scape angled, 2–4-flowered: scales scattered, minute: bracts and bracteoles broad ovate, minute: pedicels shorter than the flowers, ascending: calyx lobes broad ovate, about half the length of the spur, the posterior one blunt pointed: upper lip emarginate, lower large, flat, pubescent on the throat, about the length of the spur: capsule lenticular: seed globose, scrobiculato-minute. Flowers blue?

Quilon, in marshy ground. A small but very distinct species.

1578–2. Utricularia pedicellata (R. W.), leafless? scapes slender, erect, ramous, angled: scales longish lanceolate: bracts minute, ovate, acute; bracteoles subulate: pedicels longer than the flowers, filiform: calyx lobes ovate, acute, about the length of the spur: spur conical, shorter than the lip: lips entire, under one galeate, margins reflexed: capsule lenticular: seed globose, scrobiculate. Flowers blue.

Courtallum, flowering February.

1579. Utricularia squamosa (R. W.), scape erect, terete, furnished its whole length with numerous acute cernuous scales: bracts and bracteoles like the scales: leaves spathulate: flowers cernuous, 2–3 towards the apex, longer than the pedicels: calyx lobes lanceolate, shorter than the conical acute spur: lips entire, lower one sub-orbicular, galeate, spreading: capsule oblong, lenticular: seed globose, scrobiculate. Flowers blue.

Sispara, on the western slopes of the Neilgherries, on the marshy borders of rills and springs, rather frequent; flowering February and March. The numerous scales on the scape and the scrobiculate seed readily distinguish this from *U. uligenosa*, which in other respects it resembles.

1580–1. Utricularia affinis (R. W.), scape erect, angular, 4–5-flowered: scales few, appressed, acute: bracts ovate, acute: pedicels shorter than the flower, fructiferous ones winged at the apex: calyx lobes broad, ovate, blunt, shorter than the spur: spur tapering, acute, shorter than the lip: lower lip broad, suborbicular, slightly galeate: capsule lenticular: seed globose, deeply scrobiculate. Flowers blue.

Neilgherries. Flowering February and March, growing in tufts in marshy ground. This species seems nearly allied to *U. brachypoda*, but is, I think, quite distinct.

1580–2. Utricularia macrolipis (R. W.), scapes erect, simple filiform: scales ovate, acute, sub-foliaceous: bracts ovate, acute; bracteoles subulate: flowers subsessile: calyx broad, ovate, bluntish: spur tapering, shorter than the lip: upper lip sub-cuspidate; lower sub-orbicular: capsule lenticular: seed subovato-orbicular, papillosely muricate. Flowers yellow.

Courtallum, August and September. Height from two to four inches. The scales on this species are unusually conspicuous, almost resembling microscopic leaves. The seeds, which are large for the genus, are covered all over with soft looking protuberances or papillæ which, however, the artist has scarcely succeeded in correctly representing.

1581. Utricularia glochidiata (R. W.), cespitose, erect, filiform: leaves orbiculato-spathulate; bracts attached below the middle, both lobes obtuse, lower much smaller; bracteoles obovate: pedicels about the length of the flowers, cernuous or drooping: calyx lobes very unequal, sub-orbicular: spur about the length of the broad crenato-dentate lower lip: upper lip shorter than the calyx, emarginate: capsule globose dehiscing from the base: seed obovate glochidiate.

Ceylon, March and April; the exact station whence I obtained this curious plant is not noted. It seems to me to form the type of a distinct section, if not indeed of a genus. My acquaintance with the rest of the genus is too limited to admit of my constituting it one, though, as regards the Indian division, it seems to merit that distinction.

1582. Utricularia nivea (Vahl), nectary conical, obtuse, scape filiform, about 4-flowered: scales adnate, free at the base: capsules globose, cernuous." Vahl.

Ceylon, Malabar, &c. Though the specimen selected for representation does not very well quadrate with Vahl's character, I yet believe it is his plant. The selection is accidental in so far as being the largest and best I had, to make a picture of, of a considerable number, and in the hurry of the moment it did not occur to me to represent along side one of the smaller more usual forms. The best distinguishing characters I find in the large spur, emarginate upper lip, and rough not reticulate angular seed. The peculiar attachment, by the middle, of the scales and bracts forms an excellent sectional character.

1583. Utricularia cærulea (Linn), erect, angular, scape simple or sometimes bifid: scales and bracts attached by the middle: racemes at first short, very dense at the apex of the scape, at length elongating: flowers subsessile: calyx sub-vellutinous, lobes orbicular, much shorter than the corolla: spur longer than the orbicular spreading lower lip of the corolla, capsule globose, exceeding the lobes of the calyx: seed oblong, obovate, angular above, finely reticulate. Flowers white? nigrescent in dying, like those of *U. nivea.*

Ceylon, Malabar?

This and *U. filicaules* are perhaps the same species, or if not, the characters so far agree as to render comparison desirable with a view to their being respectively accurately defined.

The two specimens introduced into the plate are the same species and show how much the aspect is changed by age and luxuriance.

1584–1. Utricularia racemosa (Wall.), scape erect, 3–4-flowered: scales and bracts attached by the middle, lanceolato-acute at both ends; bracteoles subulate: pedicels about the length of the bracts: lobes of the calyx ovate, obtuse: spur shorter, or about the length of, and concealed by, the revolute margins of the broad under lip: capsule globose, longer than the calyx lobes; seed globose, sub-scrobiculate.

Pulney Mountains, flowering September. I am doubtful whether this is really Wallich's *U. racemosa* which is from Silhet, as the specimens seen by Alph. DC. were not in flower, but it agrees well with the rest of the character.

1584–2. Utricularia bifida (Linn), "scape erect, bifid, 2–5-flowered: bracts minute, ovate: pedicels much longer than the bracts, as long as the flowers: lobes of the calyx ovate: upper lip of the corolla entire, reflexed on the margins; inferior one 2-lobed, revolute on the margin, palate prominent, keeled with the spur."

Malacca, Griffith. The figure does not very well quadrate with the above character, which is copied from De Candolle's Prodromus. Smith, however, says "bracteas solitary," which they are, and form a remarkable character. He also says, flowers yellow: this I cannot so well make out on my specimens as only very young flower-buds and mature capsules are found on them.

If *U. bifida* belongs to the section with the scales and bracts attached by the middle, it seems probable this is the plant, but not otherwise; and that point I cannot ascertain with certainty from the characters given, but as the original specimens are preserved in the Linnean Herbarium the point can easily be ascertained. The deeply scrobiculate seed distinguishes it from all the other species of the section having orbicular calyx lobes, and scales and bracts attached by the middle.

The following Conspectus of the above species of Utricularia was drawn up for, and published in, my Illustrations of Indian Botany. I reproduce it here under the impression that, as the essential distinctive features only are introduced, it may prove a useful aid in their discrimination by directing attention to the more important points of the character of each.

CONSPECTUS OF INDIAN UTRICULARIÆ.

FLOATING. (Calyx lobes herbaceous, not covering the capsule.)
  Calyx equaling the capsule, at length diverging. Seed peltate, wingless.
    Scapes with a whorl of floats below the flower. - - - - - U. stellaris.
    Scapes without floats. - - - - - - - - U. fasciculata.
  Calyx shorter than the capsule, appressed, seed flat, bound with a wing.
    Scapes 3–4- or more flowered, seed-wing dentate. (The flowers of this species appear blue, all the others of this group have them yellow.) Mergui. - U. punctata.
    Scapes two-flowered, seed-wing entire. - - - - - - U. diantha.

TERRESTRIAL. (Calyx lobes enlarging, becoming, in fruit, sub-scariose, converging and covering the capsule.)
  Calyx lobes ovate, sub-acute ; scales and bracts attached by the base.
    Seed finely reticulate, ovate, oblong.
      Flowers some shade of blue (not yellow).
        Calyx acute, seed elliptical, obtuse at both ends.
          Spur shorter than the lower lip, descending. - - - - U. reticulata.
          Spur equaling or exceeding the lip, arcuate, horizontal. - - U. arcuata.
        Calyx blunt, sub-orbicular in fruit, seed ovate, pointed at one end. - U. humilis.
      Flowers yellow (seed oblong, elliptical). - - - - U. Wallichii.
    Seed finely reticulated, globose.
      Spur as long or longer than the lower lip.
        Cæspitose, leaves sub-spathulate, scapes lax. - - - - U. conferta.
        Distinct, sub-aphyllous, scape sub-voluble. - - - - U. uliginoides.
      Spur shorter than the lip, scape straight, erect. - - - U. uliginosa.
    Seed scrobiculate, flowers blue.
      Scales on the scape few, appressed.
        Pedicels longer than the flower.
          Spur about the length of the lip.
            Upper lip of the corolla sub-orbicular. Seed simply scrobiculate (flowers as large and like those of *U. reticulata).* - - - U. Smithiana.
            Upper lip linear, truncated, seed foveolate (flowers much smaller than those of the above plant : apparently aquatic, growing in shallow water). U. Griffithii.
          Spur much shorter than the lip, pedicels long. - - - - U. pedicellata.
        Pedicels shorter than the flower.
      Flowers subsessile or very short pedicelled ; upper lip of the corolla emarginate. U. brachypoda.
      Flower distinctly pedicelled, upper lip of the corolla entire. - - U. affinis.
    Scales of the scape numerous, sub-cernuous (not appressed). - - - U. squammosa.
  Seed papillosely hispid, flowers yellow (scales on the scape sub-foliaceous). - U. macrolepis.
Calyx lobes obovate or sub-orbicular, bracts and scales attached by the middle or above the base.
  Seed glochidiate, scales attached a little below the middle, lower lobe obtuse (seed ovate oblong, acute at one end : lobes of the calyx very unequal : spur conical : upper lip emarginate, under sub-orbicular, spreading, 5-toothed : leaves orbiculato-spathulate, scape flexuose). - - - - - - - - U. glochidiata.
  Seed reticulated not glochidiate, scales attached by the middle, acute at both ends.
    Flowers sub-sessile.
      Spur longer than the lower lip.
        Flowers somewhat remote, sub-racemose. - - - - - U. nivea.
        Flowers congested, spicate on the apex of the scape (the flowers of both these are nigrescent in drying, but do not appear to differ in colour, hence I suspect an error in the name *cærulea).* - - - - - - U. cærulea.*
      Spur shorter or about the length of the lip (lip large revolute on the margin, covering and nearly concealing the spur). - - - - U. racemosa.
    Flowers longish, pedicelled, seed scrobiculate. - - - - - U. bifida.

* U. cærula and filicaulis appear to be varieties only of the same species. The former young with the first flowers only open, the latter old with the short spike elongated into a fructiferous raceme. My specimens show, I think, the transition.

1585. Micropyxis tenella (R. W., *Centunculus tenella*, Duby in DC. Prod.), small, erect, simple or ramous from the base; branches erect: leaves broad, ovate, subacute, entire, sub-sessile or contracting into a petiol: flowers axillary: peduncles slender, shorter than the leaves: lobes of the calyx linear-lanceolate, acuminato-subulate, about equaling the corolla: corolla deciduous, urceolate at the base, capsule equaling the calyx. Duby.

Pulney Mountains, September. I learn from Dr. Arnott that this plant is identical with Wallich's *Lysimachia tenella*. The analysis which accompanies the figure will at once show that its flowers are quinary not quaternary and hence that it is a *Micropyxis* not *Centunculus* which has tetramerous flowers. Both Dr. Arnott and Sir W. Hooker agree in considering this identical with *M. pumila*, a Brazilian and Australian plant, information on which I should certainly have acted had not the specific name "tenella" been already given.

1586. Mimusops Elingi (Linn.), leaves elliptic, oblong, obtusely acuminate, glabrous: fascicles axillary, 3–6-flowered; pedicels shorter than the petiols, rusty-pubescent: lobes of the calyx lanceolate, acuminate, equal, the four exterior ones externally ferrugineo-velutinous, glabrous within, equaling the corolla.

Widely diffused over India. The specimens figured grew in Coimbatore where, however, it is rather rare. It has been already figured by both Roxburgh and Rheede, and might have been dispensed with in this work except for comparison with the two following.

1587. Mimusops Indica (Alph. DC.), branches glabrous; leaves approximated on the ends of the branches, oval-obovate, very obtuse, emarginate, glabrous; with 2–3-flowers, in the axils: pedicels glabrous, reflexed, shorter than the petiols: lobes of the calyx reflexed, three exterior ones ovate acute, glabrous, on both sides, sub-velutinous on the margin: three interior ones narrower, ovate, whitish on the back: corolla about the length of the calyx; 12 exterior lobes reflexed, 6 interior ones erect: sterile stamens deeply bifid.

Coimbatore, in forests about the foot of the adjoining hills, flowering March and April. This so nearly accords with the figure of Roxburgh's *M. hexandra* that for a long time I supposed it that species and still suspect that it really is so, but at the same time it must be admitted, that neither the magnified figure of the flower nor the description of Roxburgh's plant, agrees with the flower of this species, while with some very slight differences it closely agrees with Alph. DC.'s character of *M. Indica*. I therefore adopt his name. In the analysis there are two sets of flowers represented, one with 6 the other with 8 stamens; they were both taken off the same branch. The characteristic feature of this plant is the very short pedicels of the flowers and the deeply divided glabrous sterile filaments.

1588. Mimusops Roxburghiana (R. W.), leaves obovato-oval, obtuse at both ends, or sometimes slightly cordate at the base, short petioled, glabrous: fascicles 2–3-flowered, axillary; pedicels filiform, about thrice the length of the petiols: calyx 6–8-lobed; lobes ovate, acute, about the length of the corolla, ferrugineo-velutinous: lobes of the corolla lanceolate, acute: sterile stamens about the length of the filaments, broad obovate, fimbriated on the margin: fruit globose, depressed above, about six-seeded.

Coimbatore district, in the neighbouring jungles, flowering March and April.

The flower of this species agrees so well with the magnified flower of Roxburgh's *M. hexandra* as to give rise to a suspicion that his figure is made up of two plants. The short petiols, long pedicels and very different form of the fruit, show that this is undoubtedly a distinct species. Like the two preceding species the flowers vary in the number of their parts.

1588–*bis*. Diospyros capitulata ♀ (R. W.), for the character of this species see No. 1224. When the male plant was figured, the female specimens were overlooked; I have therefore, to complete the representation of the species, introduced it in this place. It only differs from the male in having solitary flowers. The specimens are unfortunately all in fruit.

1589. Isonandra polyandra (R. W.), arboreous leaves oblong, oval, acuminated, glabrous: fascicles axillary, 3–5-flowered; pedicels shorter than the petioles: calyx 4-lobed, about the length of the corolla, very obtuse: corolla 8-cleft: stamens 16, all fertile: anthers cuspidate: ovary hairy, 8-celled, with a single erect ovule in each.

Malacca, Griffith. The specimens from which the drawing was made were received from the late Mr. Griffith without any note regarding the tree.

The species is allied to Sir W. Hooker's *I. Percha*, but differs in the greater number of the parts of its flower and cells of the ovary.

1590. Sideroxylon attenuatum (Alph. DC.), branches ferrugineo-puberulous at the apex: leaves obovate, oblong, entire, acuminate at the base, coriaceous, shining above; the younger ones ferrugineo-sericeous on both sides, the older ones glabrous: pedicels axillary, aggregate, about 4 times shorter than the petioles, and like the calyx ferrugineo-sericeous: lobes of the calyx roundish: corolla deeply 5-cleft, glabrous, a little longer than the calyx, lobes obtuse: interior lacineæ irregularly lobed.

Malacca, Griffith. This species is introduced principally for the sake of the genus which I have not hitherto had an opportunity of introducing into this work.

1591. Samaria Rheedii (R. W.), shrubby, scandent; floriferous ramuli sub-bifarious, ascending: leaves petioled, ovate-elliptic, entire, sub-acuminate, glabrous, coriaceous: spikes axillary, usually solitary, numerous towards the extremeties of the ramuli; from $\frac{1}{4}$ to $\frac{1}{2}$ the length of the leaves: flowers short pedicelled, each furnished with a small ovate bract: calyx lobes broad ovate, dentate on the margin: lobes of the corolla scarcely cohering at the base, ovate obtuse, ciliate towards the apex: stamens scarcely exceeding the petioles: anthers glanduloso-cuspidate: drupe about the size of a pea, one-seeded.

Malabar, Neilgherries, flowering during the rainy season. Flowers greenish white. On the supposition that this is Rheede's Pu Walli. 7. tab. 42. I have dedicated the species to the original discoverer.

D

The specimen represented is somewhat different from his, but this is partly owing to luxuriance and perhaps a little to the ingenuity of the artist, but among the specimens brought from the Hills, from which the figure was made, many were equal to this though different.

1592. Serræa incana (Cavan), leaves petioled, cordate, 3-lobed, denticulate, whitish: peduncles shorter than the petioles: petals dark purple at the base.

Scinde, Stocks.

As this genus has not yet been met with in India, but may yet be found, I have introduced this plant for the purpose of making it known to Indian Botanists. The following is Decaisne's revised generic character, very slightly modified.

Involucel 3-leaved; leaflets broad, cordate, concealing the calyx, valvate in æstivation. Calyx tubuloso-campanulate, 5-cleft. Petals convolute in æstivation. Tube of the stamens columnar, adnate to the base of the petals, 5-toothed at the apex, staminiferous its whole length. Style filiform, 5-cleft, longer than the staminal tube, reflexed, obliquely truncated at the apex, stigmatose. Ovary simple, 5-celled; cells 2-ovuled; ovules attached to the inner angle. Capsule loculicido-5-valved, cells sometimes 1-seeded by abortion. Seed reniform, villous. Dece. Annal. des Sciences, vol. 4, page 70—with full description and remarks.

1593. Turræa villosa (Bennet, Plant. Jav. Rar.), leaves ovate, sub-acuminate, somewhat pubescent above, ferrugineo-villous beneath: teeth of the staminal tube obsolete: stigma globose-urceolate, crowned with a broadish disk, long exserted.

Travancore hills. The date on which the specimens were collected is unfortunately not noted, but I think it was March or April. The figure seems to agree so well with Mr. Bennet's description, as scarcely to leave room to doubt that this is really his plant, though the stations, from which the specimens were obtained, are remote.

1594–95. Garuga pinnata ♂ and ♀ (Roxb.).

Coimbatore district, flowering during the hot season. This being the only species of the genus can have no specific character. In this district it is a considerable tree, growing in jungles near the foot of the neighbouring hills. It comes into flower when the tree is destitute of leaves. The male figure shows it in that state. The female one shows it with the fruit considerably advanced towards maturity and the tree clothed with foliage.

1596. Neurada procumbens (Linn.).

Scinde, Stocks. I am indebted to Mr. Stocks for my specimens of this curious plant. Having been found so close to our confines I think it probable it may ere long be found on the left bank of the Indus. The figure in Lamark is a very indifferent one, not by any means well calculated to convey a correct idea of the habit of the plant, a point on which I think my artist has been more fortunate.

1597. Cylista scariosa (Aiton), racemes shortly peduncled, about as long or a little longer than the leaves: calyx twice as long as the corolla; tube short, campanulate; segments very large, thin and scariose, reticulated with coloured veins; upper one broad, 2-lobed, the lobes ovate, obtuse; lower the largest, cymbiform; lateral ones much smaller than the others, cordato-ovate.

The specimens from which the drawing was made were obtained from Coorg or Mysore, the station not mentioned. In the dissected flower, one of the smaller lateral lobes of the calyx is badly represented, so that it appears in the place of the large 2-lobed upper one (that opposite the figure 3-). The petal with the hastate base is the vexillum, the others the wings and keel. It is a rare plant in the Southern provinces.

1598. Coffea Wightiana (Wall.), shrubby, bushy, rigidly and shortly branched with occasionally short axillary abortive or spinescent branchlets: leaves ovate, glabrous, stipules subulate, rigid and spinescent; flowers usually solitary, sessile, axillary or at the apex of short 2-leaved axillary branchlets: limb of the calyx with about 10 minute teeth not increasing after flowering: corolla 5-cleft, pubescent or viscous on the outside, glabrous within; segments linear oblong, obtuse: anthers attached by the middle of their back to the tube of the corolla, linear, entirely included: style not half the length of the corolla; stigma bipartite, lobes linear: berry somewhat didymous. W. and A.

Coimbatore district, not unfrequent in arid plains near the foot of the hills, flowering March and April. In similar localities it extends southwards to Courtallum.

In this district the flowers are exceedingly deciduous, the first crop making their appearance before the leaves. It is difficult to make good specimens.

1599. Boucerosia diffusa (R. W.), ramous, diffuse, procumbent, tetragonal: floriferous ramuli ascending; angles subacute, dentate, teeth minute; umbels terminal, simple, many-flowered: flowers sub-sessile: calyx small, 5-parted, lobes subulate: corolla tubular, limb delicately transversely rugous, fimbricated on the edge.

On arid rocky mountains near Coimbatore, at an elevation of about 2,000 feet, flowering April and May. Flowers dark purplish brown, varigated within with fine almost inconspicuous whitish lines. The larger detached umbel, fig. 10, is taken from specimens which flowered in rich soil in my garden. The very diffuse habit, a single plant covering many square feet of surface, the minute cauline teeth, small calyx lobes, and distinctly tubular corolla of this plant, combine to mark this species as very distinct from any of its Indian congeners.

1600. Mitreola paniculata (Wall.), stem subquadrangular, glabrous; branches roughish pilose: leaves ovate-oblong, acuminate, narrowing at the base into the petiol; margin and veins roughish pilose: bracts and lobes of the calyx lanceolate, margin and back slightly pilose: corolla about the length of the calyx: capsule lunate with the lobes inflexed, rough on the inner angle: seed elongato-compressed.

Mysore, Cleghorn. I am indebted to Dr. Cleghorn for the drawing and a specimen of this plant, from which last I was enabled to add the analysis of the flower. I am indebted to Mr. Law of Bombay for a specimen, but in fruit only, of which appears to be *M. oldenlandioides*. It looks different from this one

but as I have only a single specimen of each form, and that of the former not good, I feel uncertain as to whether I ought to view them as species or varieties. Alph. DC. lays much stress on the direction of the lobes of the capsule, that is, whether inflexed, as represented here, or straightly diverging (capsulæ lobis recte divergentibus). In Mr. Law's specimen they are not divergent, hence my uncertainty as to whether a species or variety.

1601–1*st*. MITRASACHME INDICA (R.W.), glabrous, erect, ramous; branches somewhat flexuose, compressed, two-edged: leaves sessile, ovato-lanceolate acute: peduncles longer than the leaves, one-flowered: corolla about thrice the length of the calyx, pilose within: stamens included, stigma two-lobed: seed numerous, peltate, scrobiculate.

The exact station whence the specimen represented was obtained is uncertain, but I have specimens from various localities, Jaulnah, Arcot, Coimbatore, &c., and varying somewhat in form according to the soil. Some luxuriant ones so far resemble the next as at first sight to make me feel doubtful as to these being distinct species. The different forms of the inflorescence and seed removed the doubt. Fig. 12 of the plate is the section of the stem.

1601–2*d*. MITRASACHME MALACCENSIS (R.W.), sub-pilose; stems ascending or erect, simple or rarely ramous, terete: leaves opposite, ovato-lanceolate, acute, united and slightly vaginate at the base: peduncle terminal, longer than the stem, paniculato-racemose 8–12-flowered; flowers long pedicelled. Corolla tubular, 3–4 times as long as the calyx, pilose within: stamens subincluse: stigma 2-lobed: seed globose, tuberculato-roughish.

Malacca, Griffith. The specimens, from which the accompanying figures were taken, were received from Mr. Griffith without a label. In the magnified figure of the leaves, the draftsman has committed a gross blunder in representing them subalternate and quite distinct at the base; they are opposite, connate, and slightly vaginate or, as it were, perfoliate.

1602. IMPATIENS JERDONIÆ (R.W.), epiphetic, diffuse, sub-procumbent, except the ascending flowering branches, glabrous: leaves ovate, acute, bristle serrate: peduncles axillary, erect, 2- or rarely 3-flowered, pedicels longer than the peduncle and leaves: lateral sepals lanceolate; anterior, or spur one, saccate, ventricose, contracted at the apex into a spur-like point, proper spur none, petals deeply 2-lobed, the anterior lobe larger; posterior petal galiate, mucronate.

On branches of trees and moist rocks on the Sisparah Ghaut of the Neilgherries.

The drawing was made by Mrs. Jerdon from plants which flowered in Major Cotton's conservatory at Ootacamund. The posterior sepal or helmet and the petals, projecting from the throat of the large anterior hollow sepal, are yellow, the lateral sepals green, and the lower saccate sepal dark red. It is most nearly allied to *J. Walkereæ* both having the anterior sepal saccate and destitute of limb or, perhaps, I should rather say, the spur is so much produced that it absorbs the whole of the limb in its formation. The species in which this formation occurs might, it seems to me, form a convenient section.

1603. IMPATIENS GONGHII (R.W.), erect, ramous, glabrous; leaves ovate, serrated, short petioled, aggregated towards the summit of the branches: peduncles axillary, filiform, umbellately 4–6-flowered, longer than the leaves, viscid: flowers small; lateral sepals minute, subulate; superior one broad abcordate, mucronate; lower much shorter than the petals, acute, furnished with a short conical spur: anterior lobes of the petals much larger than the posterior: capsule glabrous, few-seeded.

Pycarrah, Neilgherries, in moist shaded places on the right bank of the river. I received the drawing and specimens from which this figure and character are taken many years ago from Mr., now the Hon'ble Captain Gough, and published the species in my Illustrations, Vol. 1, p. 160. I have since then repeatedly gathered the plant in the locality indicated. It is a diffuse growing plant, very ramous, slender, seeking the support of adjacent plants and then sometimes attains the length of from 12 to 18 inches. The flowers are small, pale rose coloured.

1604. AILANTHUS MALABARICA (DC.), leaves abruptly pinnated, glabrous; leaflets quite entire, ovato-lanceolate unequal-sided, oblique at the base, abruptly acuminate: male panicles large, somewhat contracted: peduncles and calyx pubescent: petals glabrous, much longer than the calyx, obovate: stamens glabrous, filaments longer than the petals: anthers small: samara oval, oblong, obtuse at both ends.

Travancore, flowering during the hot season. I am indebted to General Cullen, Resident of Travancore, for the specimens from which this plate was prepared, which unfortunately were all males with only one or two samara. Thus imperfect, it was not my intention to have published this plate until I had obtained specimens of the female, but was induced to do so under the impression that the work was to close with this part, which I now trust will not be the case. The bark is rough, very thick, and studded with bright garnet looking grains, apparently of a resinous nature but which do not burn like resin, nor do they dissolve in either spirits or water, whence I infer it is of a peculiar chemical composition, still to be ascertained.

1605. HUMBOLDTIA LAURIFOLIA (Vahl.), branchlets tumid, joints fistulose; leaflets 3–5 pairs, ovate-oblong acuminated: back lobe of the stipules unequal sided, one end longer than the other, and acute, petals free.

Ceylon. I gathered the specimens from which this drawing was prepared in 1836, flowering in March and April; I have not seen it on the Continent. I am not sure that I rightly understand that part of Mr. Brown's character which relates to the back lobe of the stipules, "stipularum lobo postico hinc productione, acuto," and have therefore modified that part of the character, as given in our Prodromus, to suit the specimens before me.

1606. HUMBOLTIA BRUNONIS (Wall.), branchlets solid, equal: leaflets 2 pairs, cuneate oblong, with a short obtuse acumination: back lobe of the stipules nearly equal sided, and rounded on both ends: petals three.

Malabar. I first met with this tree, or one that I believed to be it, but not in flower, in the pass between Quilon and Courtallum. I have since received specimens from the western slopes of the Neilgherries and from Coorg. Several years ago Captain Munro sent me a specimen from the latter station with the following note attached: "*H. Brunonis.* I send a specimen of this as requested. I found the plant in great abundance at the foot of the Sumpayjee Ghaut in Coorg, but I could only find two specimens in flower. I send one. I have also found it on the (name illegible) Ghaut in Canara, and on the Koonda Ghaut, Neilgherries." The specimen figured is from Coorg.

1607–8. Humboldtia Vahliana (R.W.), branchlets solid, equal: leaflets 4 pairs, ovate, oblong, acuminated: back lobe of the stipules nearly equal sided, round at both ends, petals 5, nearly equal, scarcely equaling the calyx lobes, caducous.

Neilgherries. In jungles about Coonoor.

This species is very distinct from both the others; from the first it differs by its solid branchlets, and from the second by its pentapetalous flowers, 4-paired leaves, and very different shape of the leaflets. The spikes are usually geminate, secund.

1609. Bryonea Mysorensis (Klim. Herb. Mad.), stems glabrous smooth: tendrils simple: leaves cordate, repand-toothed, usually 5-angled or lobed; slightly scabrous: male flowers in a simple or proliferous umbel at the apex of a long slender peduncle; female very shortly peduncled, solitary, often in the same axils with the males, rarely several umbellate at the apex of a long peduncle: calyx tube and ovary narrow oval: berry longish oval, glabrous, copiously marked before maturity with small shallow pits: seeds smooth, surrounded with a zone quite flat on the sides.

Mysore, climbing on hedges, &c. This species is so nearly allied to *B. Hookeriana* that I formerly expressed my belief of their being but varieties of the same plant differing merely in the shape of the berry. It having since then been suggested that the difference forms a good specific distinction, I have thought the best course to follow, to rectify my error, if such it be, is to give figures of both. This one can be compared with No. 758, which is the form described under B. Hookeriana.

1610. Dichrocephala Schmidii (R.W.), procumbent, diffusely ramous, glabrous: leaves obovate cuneate, slightly dentate at the apex: capitula globose, sessile, axillary and terminal.

"Neilgherries, on the banks of dry ditches near the dyke of Ootacamund lake, and also on the margin of a tank near Bellicul. Schmid." I am indebted to the Rev. Dr. Schmid for my specimens of this very distinct species, which I have much pleasure in dedicating to the discoverer. In the first named station he found it several years ago, but latterly it seems to have disappeared from that locality. The specimens sent were obtained from the other.

1611. Atalantia floribunda (R.W), shrubby or subarboreous, very ramous, spinose: thorns straight, about 6 lines long, axillary: leaves oval, emarginate or subovate: racemes axillary, short, many-flowered, flowers longish pedicelled: ovary stipitate 4-celled with 1 ovule in each, orange about the size of a nutmeg.

Ootacalmundagum, near Coimbatore. Flowering during the rainy season, October and November. The flowers of this species are much larger than those of the other two: the ovary, which is somewhat cylindrical and 4-celled with a single pendulous ovule in each, is prolonged downwards considerably beyond the base of the cells. In other respects it much resembles *A. monophylla.*

1612. Osbeckia hispidissima (R.W.), suffruticose, erect: branches 4-sided, thickly covered with strong inflexed bristly hairs, leaves sub-sessile, oval-lanceolate acute at both ends, 5 nerved, hispid on both sides, especially on the veins beneath: hairs thick and wiry like those of the stem: corymbs terminal, few-flowered: calyx stellato-hispid, 4-cleft, lobes ciliate, petals 4, large, spreading: stamens 8, anthers prolonged into a longish beak.

Mysore, Cleghorn. I am indebted to Dr. Cleghorn for the drawing and specimens, from which the plate and specific character of this very distinct species were prepared.

It is at once distinguished from all those of both India and Ceylon, with which I am acquainted, by the extreme hairyness of its stems, which is not adequately brought out in the figure, and the texture of the hairs with which the leaves are covered: the larger leaves on my specimen are about 7 inches long and two broad, 5 nerved, with a more slender one binding each edge. The flowers are large, dark crimson, anthers prolonged into a long curved beak; the fruit I have not seen.

1613. "Scævola uvifera (Stocks), shrubby, branches decumbent at their origin, axils almost smooth: leaves oval or obovate, like the branches, fleshy and smooth: flowers in cymes about the length of the leaves, peduncles a little compressed, bracts fleshy, linear: border of the calyx entire or 5–6-crenate: lobes of the limb of corolla fimbriate at their base: filaments smooth, anthers with the connective ending in a hooked tip: ovary with 10 streaks, style hairy at the base: stone of the purple fruit pear-shaped and rugose on the surface.

Hab. Mouths of the Indus, and sand-hills by the sea at Kurrachee. Flowers white, scentless. A large epygynous gland in the line of the stamens and opposite the anterior or odd lobe of the corolla. Lobes of stigma right and left of the axis. Cells of ovary anterior and posterior.

The indusium, undeveloped in the youngest buds (figure 5), grows rapidly over the lobes of the stigma which remain stationary in their development (figure 6), but soon take on growth and the pollen is shed on them before the flower opens (figures 7 and 8), and even after this they continue growing and project beyond the Indusium (figure 9). Seed erect with albumen.

1. Flower.
2. Anther.
3. Ovary.
4. Ovary cut vertically.
5. Stigma in very young bud. Its lobes are uncovered by the Indusium.
6. Stigma and Indusium in buds further advanced. Mouth of Indusium open. Lobes of stigma small.
7. and 8. Stigma and Indusium just before the expansion of the flower. Mouth of Indusium closed. Lobes of stigma well developed.

9. Stigma and Indusium in flower. Lobes of stigma have grown and project beyond the Indusium.
10. Horizontal section of fruit.
11. Vertical section of fruit.
12. Section of stone of fruit showing the seed.
13. Cross section of the seed. a. Albumen. b. Cotyledons.
14. Embryo.
15. Diagram of flower.

Figs. 1—9, magnified.
Figs. 10—14, natural size."

The figure and preceding description were both communicated by Dr. Stocks.

1614. Vincetoxicum Arnottianum (R. W. contrib.), suffruticose, climbing; branches terete, glabrous: leaves succulent, short petioled ovate or oblong-oval, obtuse or emarginate, upper ones on the floriferous ramuli often lanceolate, acute or mucronate: umbels sub-sessile, many-flowered: flowers dark purple: corolla clothed within with white pubescence: stamenal crown deeply five-cleft, lobes as long as the gynostigium with a broad sinus between: stigma apiculate. Beluchistan, Stocks.

This species was first taken up from rather imperfect specimens, whence some alterations have here been found necessary to adapt the character to the species. I am indebted to Dr. Stocks for the specimens from which the drawing and revised character were taken.

1615. Pedalium murex. (Linn.)
Coimbatore, and generally over Southern India, especially near the sea coast, and in light moist sandy soils.

This plant is figured by Rheede (Hort. Mal. 10, 72) and by Burmann (Fl. Ind. tab. 45), but in no later work that I am aware of. It is however well described by both Roxburgh and De Candolle.

The fresh plant has the property of quickly rendering water or milk in which it is immersed, thick and mucilaginous, without however altering the taste or colour of the liquid. Thus prepared, and sweetened with a little sugar, the infusion forms a very agreeable and cooling drink, much used by the Natives to relieve the heat of urine of gonorrhœa. Roxburgh tells us that venders of butter-milk are in the habit of diluting their merchandize with water and then thickening the mixture with this plant, which makes the adulterated article seem rich and of the best sort.

Puneeria. (Stocks.)

"Gen. Character. Flowers diœcious by abortion. Calyx 5-cleft, increscent but not inflated in fruit. Corolla campanulate, with the divisions of the limb valvate in æstivation, and bent inwards where their tips join in the centre. Stamens five, inserted near the bottom of the tube of the corolla with tufts of hairs on each side of the filaments at their points of origin. Ovary 2-celled with many-ovuled placentæ. Style simple, stigma bilamellate. Berry tightly invested by the calyx; its apex uncovered. Seeds ear-shaped. Embryo bow-shaped or nearly ring-shaped, in the midst of fleshy albumen, with linear cotyledons and a long radicle.

An under-shrub, most densely covered with minute stellate hairs, arranged in tufts which form a short ash-grey covering over the whole plant. Leaves lanceolate-oblong, unequal at the base, of a thick tough texture, sometimes appearing to spring in pairs (pseudogeminate), with the upper and lower surfaces alike. Flowers diœcious, fasciculate, with the peduncles bending downwards. Male plant.—Calyx shorter than the tube of the corolla. Stamens as long as the tube. Ovary rudimentary with no style. Female plant.—Calyx as long as the tube of the Corolla. Stamens rudimentary with exceedingly short filaments and with anthers effete and void of pollen.

1616. "Puneeria coagulans (J.E.S.), this plant is recognised at a considerable distance by its dusty ash-grey hue, which in the young leafy shoots has a bluish tinge. There is not a shade of green in the whole plant. It forms ramous bushes 1–2 feet high, flowering in February and ripening its fruit in March." J. E. S.

The berries of this plant are used in Beluchistan to coagulate milk for cheese making. Two or three of them are rubbed up with a little milk which is then stirred into the whole quantity to be coagulated. Its generic and specific names are derived from this property: *Puneer* (cheese), hence, *Puneeria*, and *coagulans*, from its quality of coagulating the milk to make cheese.

I am indebted to Dr. Stocks for my specimens and a short memoir, by him, on the plant, published in the Journal of the Bombay branch of the Royal Asiatic Society from whence I have copied the generic character and above points of information.

1617. Capsicum fastigiatum (Blume), shrubby, branches 4-sided, fastigiate, diverging, pubescenti-scabrous: calyx of the fruit sub-cylindrical, truncated: fructiferous peduncles sub-geminate, erect: berry oblong, cylindrical, straight: leaves oval or lanceolate, acuminate at both ends, minutely serrulato-ciliate.

Bolumputty jungles, near Coimbatore, flowering and in fruit from August till October, perhaps longer. A small ramous herb from one to two feet high. Capsule, when ripe, deep red. The fruit is very pungent, but the Natives do not use it when they can get the common chillie, assigning as their reason that it is unwholesome.

1618. Phelipæa ramosa (Myers.) scape ramous, sparingly scaly: flowers ranged in loose elongated spikes: calyx 4-toothed, teeth ovato-triangular, acuminate. Corolla tuberculoso-funnel shaped; lobes of the lips ovate, obtuse, nearly equal, ciliate: style slightly glandulose; stigma retuse, 2-lobed.

I am indebted to Dr. Stocks for my specimens of this plant, which were gathered in wheat fields, but the station is not mentioned. This species, though a very widely distributed one, has not yet, I believe, been found in India; it is not, therefore, by rights, entitled to a place here, but is introduced in connexion with the remarks on the sectional and generic characters of this order given under No. 1420.

1619. Strobilanthes rugosus (R.W.), shrubby, erect, ramous; ramuli sparingly pubescent, 4-sided, furrowed, angles blunt; older branches glabrous: leaves broad ovate, acuminate, coarsely crenato-serrated, decurrent on the petiol, rugous, hirsute on both sides: spikes globose, axillary, simple or compound; when compound peduncles trifid or sometimes twice trifid: lower bracts remote, sterile, reflexed, all obovate, rounded above, glabrous; bracteoles none: calyx lobes lanceolate, subcuneate: corolla scarcely exceeding the bracts, capsule 4-seeded, upper pair sometimes aborting.

Coonoor, Neilgherries, in woods. At first I considered this plant amply distinct from *S. Heyneanus* (of which I have not an authentic specimen), but closer comparison of the dried specimens with the character of that species has given rise to doubts as to their being really distinct. There are no doubt differences, but in the absence of specimens to compare, I do not feel certain that they are of specific value. In the growing state it is a striking plant; the very deep dark green of the exceedingly rugous leaves (a feature not well preserved in the drawing) contrast strongly with the numerous pale rose-coloured capitate spikes, and deep blue of the small flowers. It is said by the Natives to flower only once in several years.

1620. Lepidagathis nervosa (R.W.), herbaceous, diffuse, glabrous: leaves ovato-oblong, attenuated towards the apex, decurrent on the petiol, crenato-serrated, unequal: spikes terminal, once or twice trichotomous, contracted into a capitulum: bracts and bracteoles scarious, glabrous; bracts elliptic, obtuse, 5-nerved, the exterior pair of nerves marginal; bracteoles equal, as long as the bracts, 3-nerved: posterior lobe of the calyx much larger than the others, 3-nerved; middle pair narrow, subulate, anterior lanceolate: corolla (when dry) scarcely exceeding the bracts.

Ceylon. This species being from Ceylon and, I believe, among Col. Walker's plants, I at first supposed it *L. Walkeriana*, but on comparing it with Nees' character could not reconcile the two, especially in what regards the bracts and calyx: "bracteis herbaceo-chartaceis calyce duplo brevioribus;" neither does it quadrate with two other species from the same country, though all seem nearly allied. Viewing it therefore as a new species, I have named it with reference to the nerved bracts and bracteoles.

1621. Salvadora persica (Linn), leaves oblong, narrow elliptico-lanceolate succulent, glabrous: panicles terminal, compact: flowers sessile, bracteate: bracts caducous: corolla persistent: fruit ——.

Scinde, Stocks. Arabia, Persia, Egypt.

Small trees with the stem slightly tumid at the articulations. Leaves linear, opposite, leathery, entire, very obscurely veined. Flowers sessile, minute, in loose panicles. Calyx inferior, 4-leaved, minute. Corolla membranous, monopetalous, 4-parted. Stamens 4, connecting the petals into a monopetalous corolla; anthers round, 2-celled, bursting longitudinally. Ovary superior, 1-celled, with a single sessile stigma; ovule solitary, erect. Pericarp berried; 1-celled, indehiscent. Seed solitary, erect. Embryo amygdaloid, without albumen; cotyledons fleshy, plano-convex, fixed a little below their middle to a long axis, the radicle of which is inclosed within their bases.

There are, I believe, only 3 species of this genus; of these one is common in India the other two are natives of the countries west of the Indus. In my Illustrations of Indian Botany I have made some remarks on them, suggested by an examination of specimens of all the three plants, which, for the sake of those who may not have the means of consulting that work, I republish here. Two of the three are represented in the accompanying plate, viz. the flowering specimen, *S. Persica*, and the one in fruit, *S. Stocksii*.

Remarks on Genera and Species. To this genus, six species are assigned in botanical works; *S. Persica, capitata, biflora, Surinamensis, paniculata*, and *Indica*. Of these, the first constitutes the original type of the genus, the second and third, so far as I can make out from description, do not belong to it, the fourth rests on the authority of Sprengel, and has been referred, by Alph. D.C., to *Weigeltia*, a genus of *Myrsineaceæ;* and lastly the 5th and 6th seem to be the same or very nearly allied species. The first and last have long been confounded. The first notice to that effect, I find in Racmer and Schultes in these words, "Planta Roxburghi alia videtur quam illa Forskali ex descriptione." Royle afterwards took the same view and called the one *S. Persica*, the other *S. Indica*, but without giving distinctive characters. He, however, as I understand him, calls, perhaps by mistake, the Indian plant figured by Roxburgh, *S. Persica*, and the Forskalian one, *S. Indica*. As I happen, through the kindness of Mr. Stocks (who sent me specimens of the Western plant from Scinde), to have both species before me, I am enabled to clear up the doubts and uncertainties which have so long hung over them. The typical forms of the two plants may be distinguished at a glance, the Western or Persian one having long narrow elliptico-lanceolate leaves, and compact spicato-panicled inflorescence, or, in other words, a sessile-flowered panicle; while the Eastern or Indian one, has broad ovato-oval obtuse leaves, and large diffuse racemoso-panicled inflorescence, that is, pedicelled flowers on the floriferous ramuli. The berries, moreover, of the Persian plant, are described as yellow or black, those of the Indian one are red. I now have specimens of the Indian form, from both Cambay and the Circars, and thence extending south to within a few miles of Cape Comorin (how far north it goes I am unable to say), and every where corresponding with Roxburgh's figure and description. To this species, therefore, I restrict the specific name *Indica*, to the other, or long narrow leaved and sessile flowered form, I assign the specific name of *Persica*.

But I have a third nearly intermediate form, also from Scinde, which, being only in fruit, I am as yet uncertain how to dispose of. It has the broad short blunt leaves of the Indian plant, but the panicles are much more compact, and the pedicels scarcely half the length. It seems a distinct species. The above species may be thus defined:—

Salvadora Persica (Linn. *Cissus arborea*, Forsk.), leaves oblong, narrow elliptico-lanceolate, succulent, glabrous: panicles terminal, compact: flowers sessile, bracteate: bracts caducous: corolla persistent: fruit ——. Scinde, Arabia, Persia, Egypt.

Salvadora Indica (Royle? R. W. *Salvadora Persica*, Roxb.), arboreous, leaves broad ovate-oval, obtuse, glabrous: panicles terminal and axillary, diffuse; flowers longish pedicelled: bracts sub-persistent: berry about twice the length of the calyx, red, embraced by the marcessant corolla.

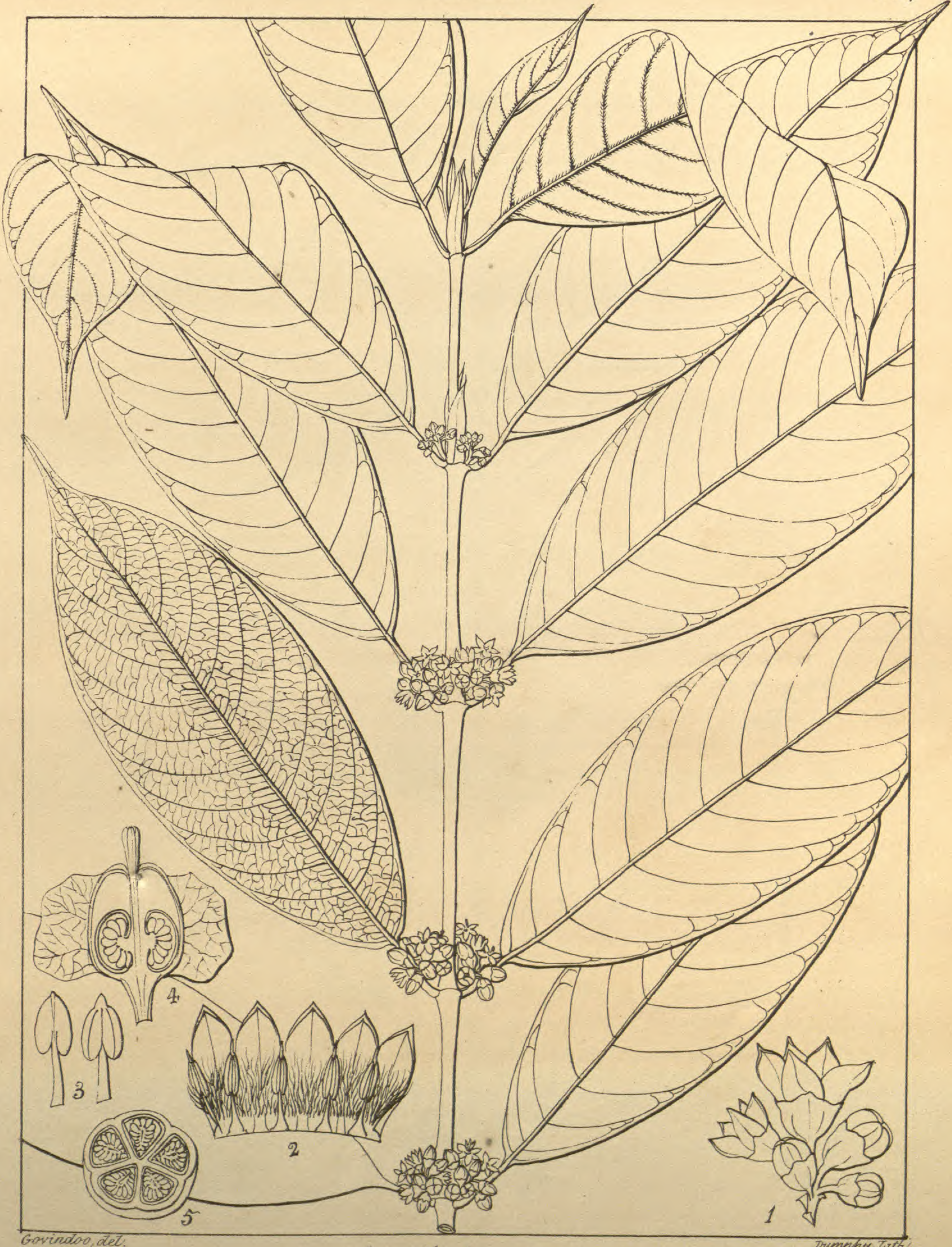
India, everywhere in low lying damp ground, usually near cultivation.

Salvadora Stocksii (R. W.), leaves ovato-oval, mucronate: panicles compact, terminal: flowers short pedicelled: corolla deciduous: fruit three or four times the length of the persistent calyx.

Scinde, Stocks. I consider this a perfectly distinct species, as shown by the deciduous corolla, large size of the fruit, and compact form of the panicles. In these definitions I have limited myself to the characters simply required to distinguish one species from the other. Of the two last I shall give figures in the Icones.

Govindoo, del. Dumphy, Lith.

Axanthis ceylanica (R.W.)



Govindoo, del. Dumphy, Lith.

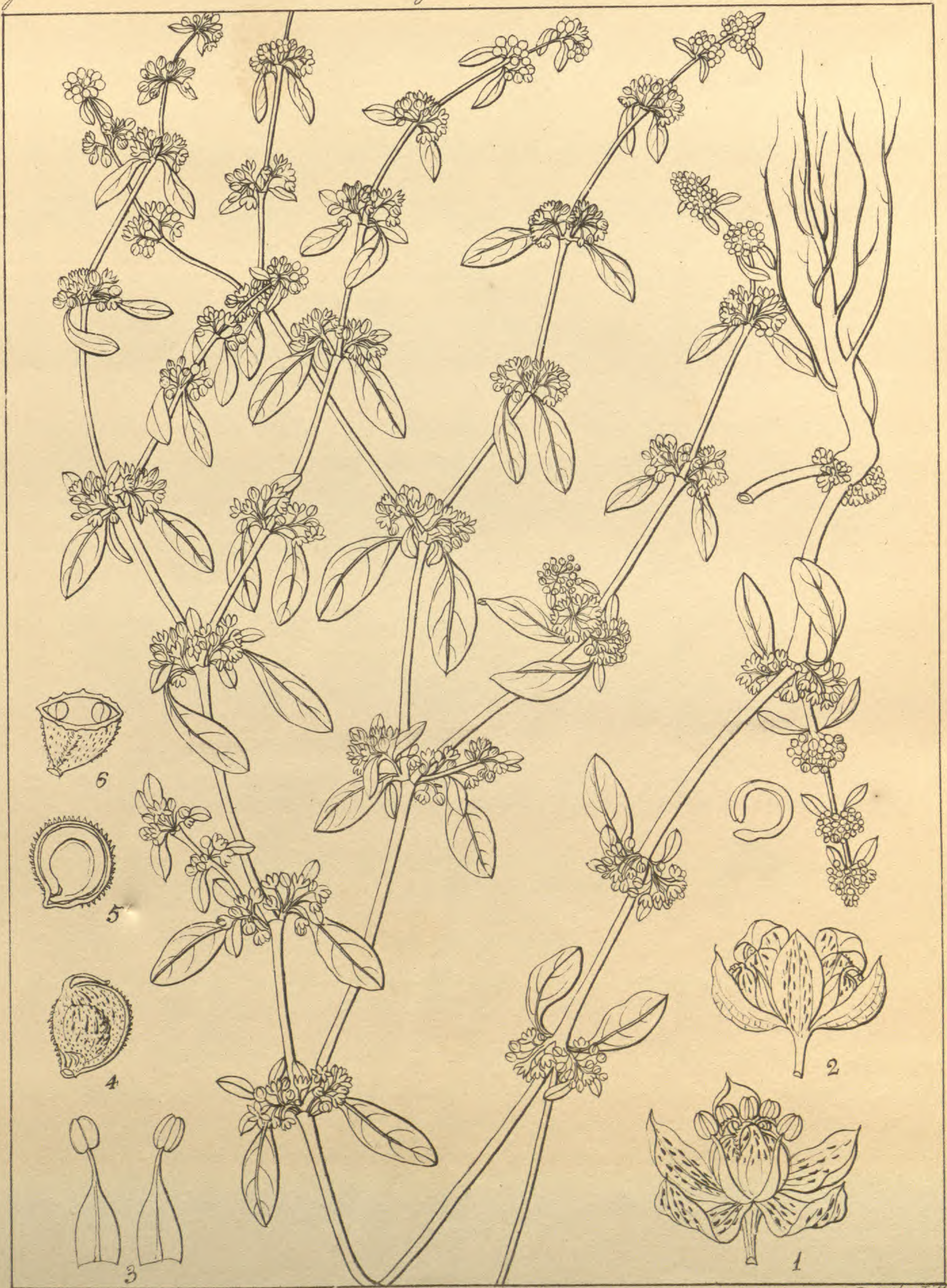
Axanthes elliptica (R.W.)

Govindoo, del. Dumphy, Lith.

Axanthes longifolia (R.W.)

Govindoo, del. Dunphy, Lith.

Dipsacus Walkeri (Arn)



Rungiah, del. Dunphy, Lith.

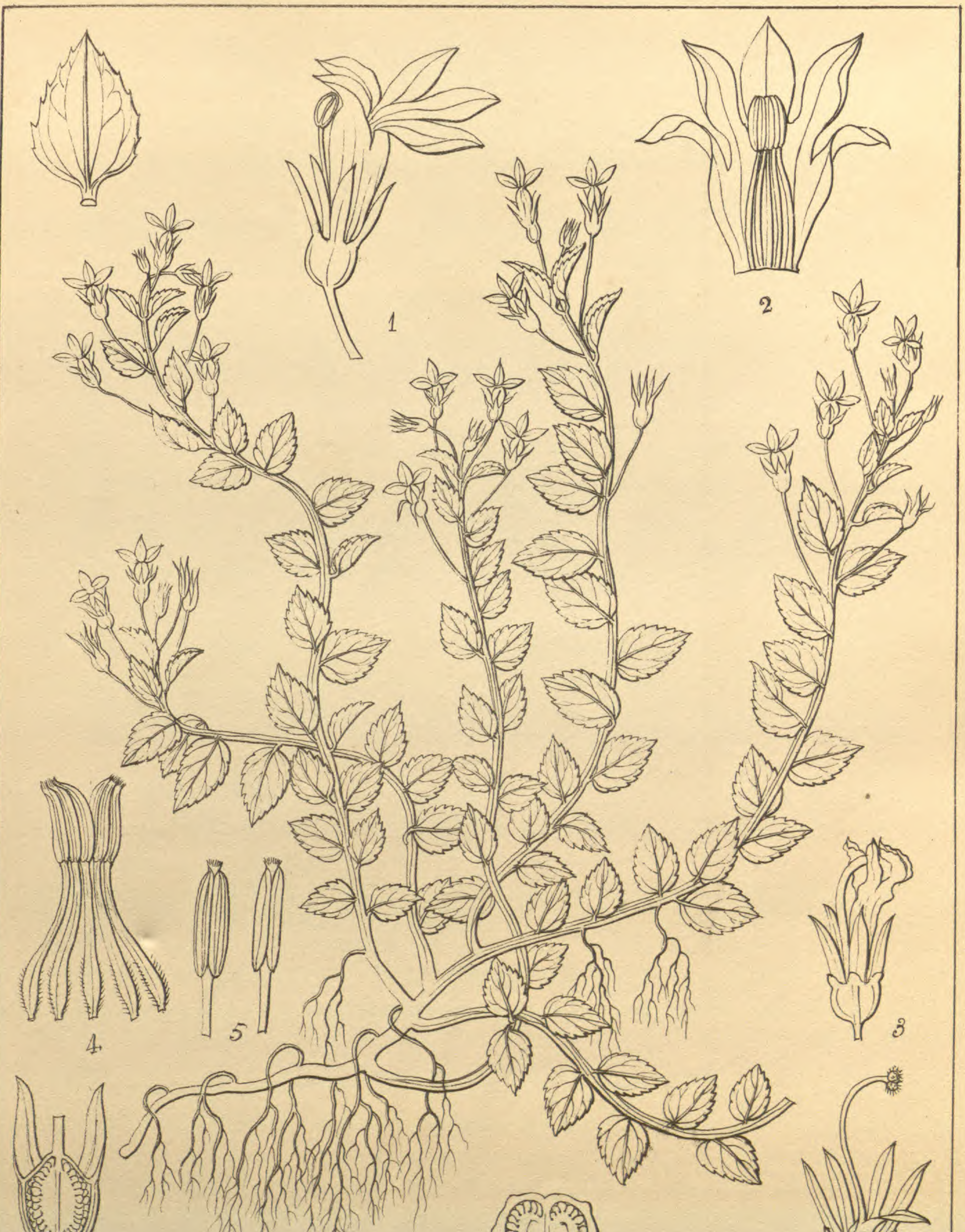
Giesekia pharnacioides (Lin)

Govindoo, del. Dumphy, Lith

Giesekia mollugineides (R. W.)

Govindoo, del. Dumphy, Lith.

Jatropha peltata (R. W.)



Govindoo, del. Dumphy, Lith.

Lobelia trigona (Roxb)

Rungiah, del. Dumphy, Lith.

Lobelia trichandra (R. W.)

Govindoo, del.

Lobelia aromatica (Moon's Cat)

Rungiah, del. Dumphy, Lith.

Lobelia excelsa (Leschen)

Rungiah, del. Dumphy, Lith.

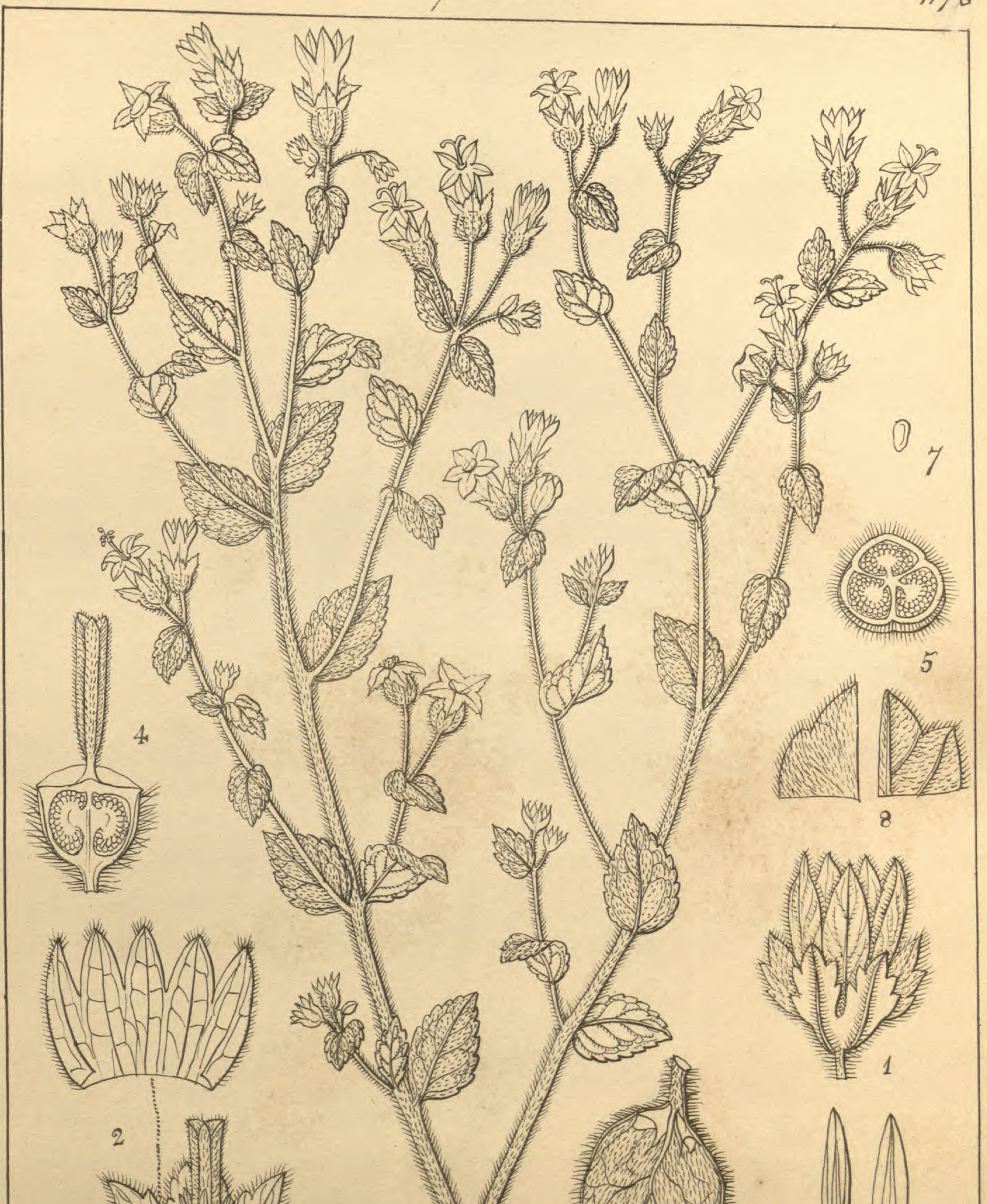
Wahlenbergia agrestis (A.C.D.C.)

Govindoo, del. Dumphy, Lith.

Wahlenbergia Indica (Al. D.C.)

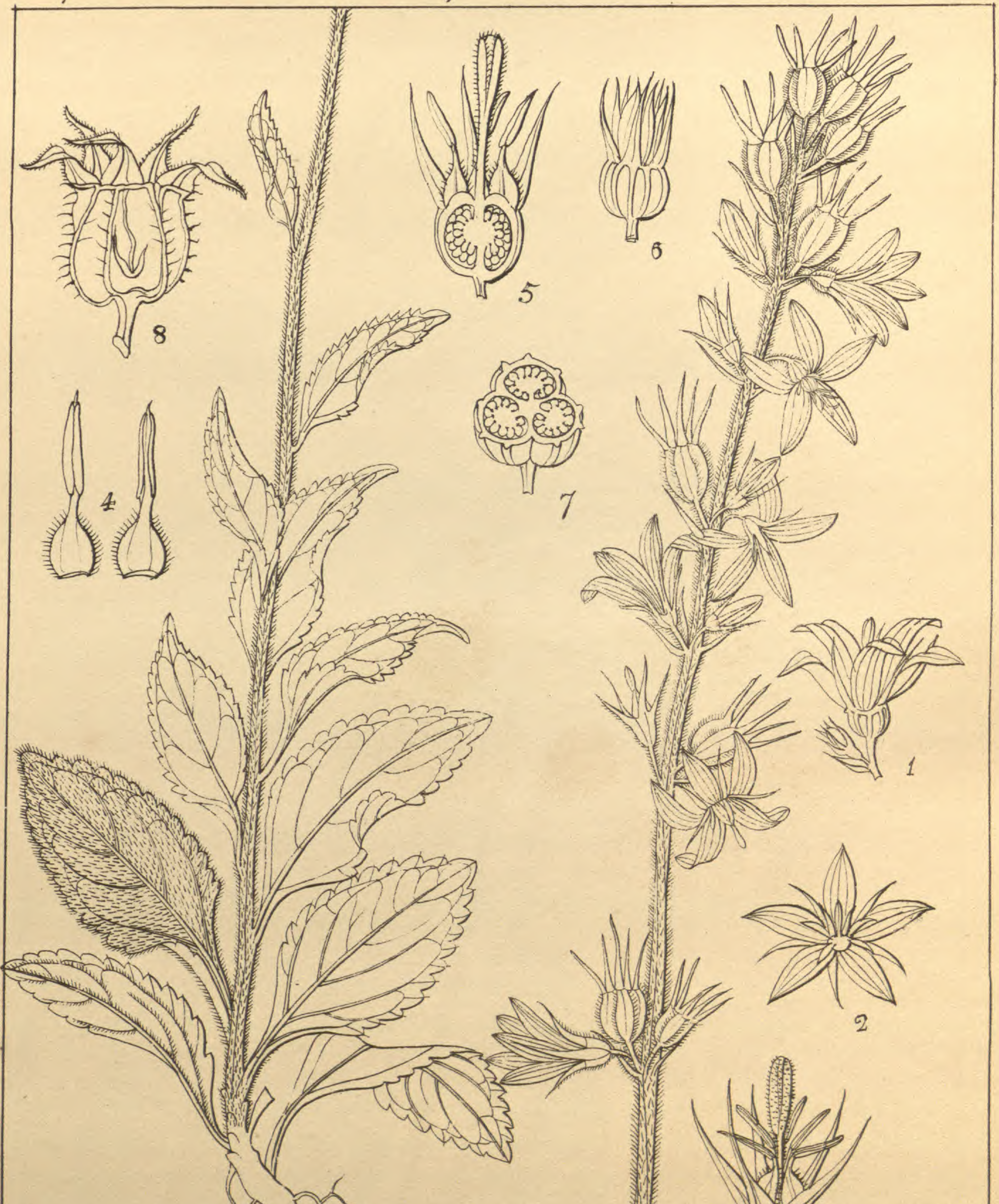
Runguiah, del. Dumphy, Lith.

Campanula alphonsii (Wall)



Govindoo, del. Dumphy, Lith.

Campanula ramulosa (Wall)



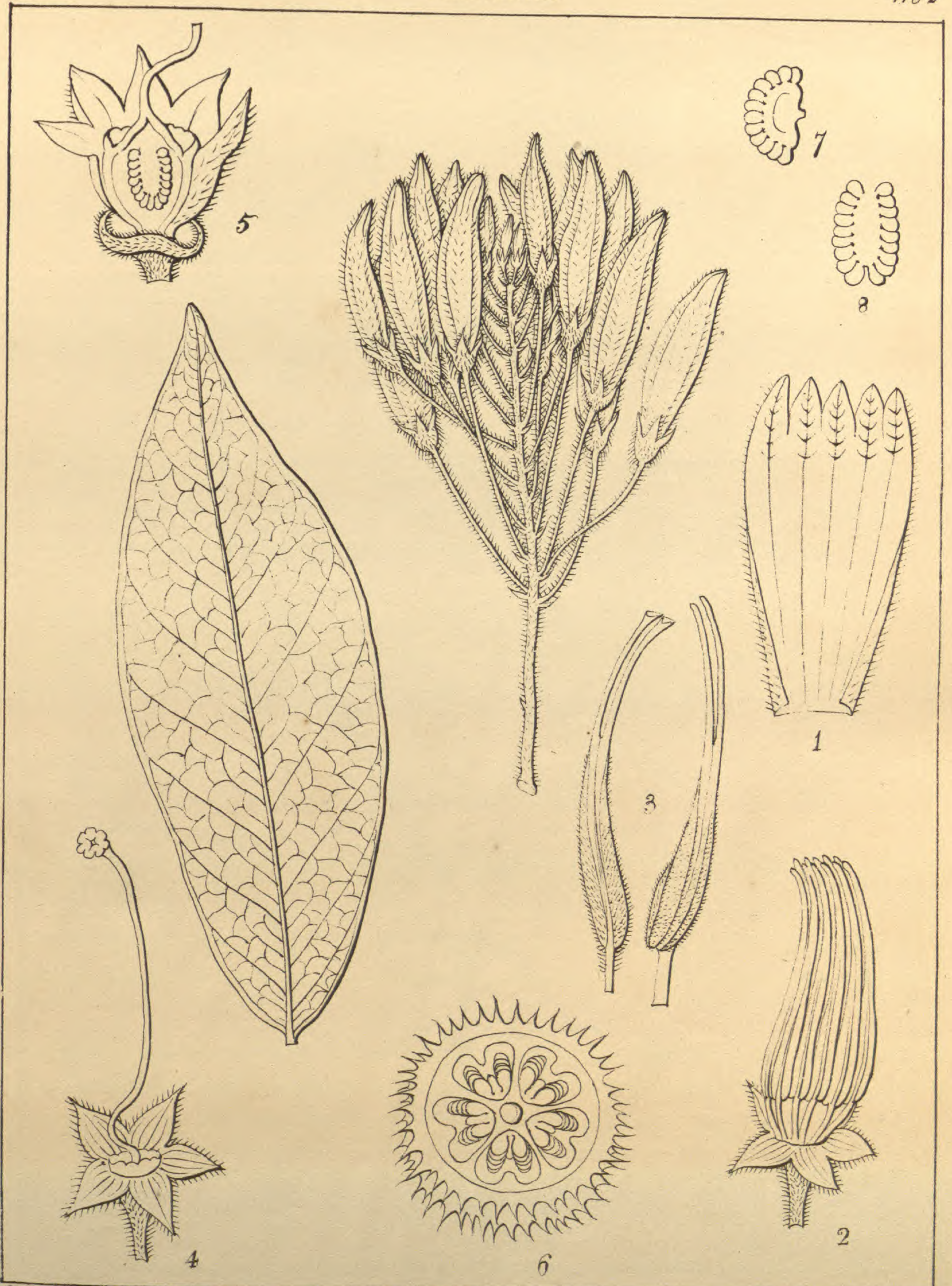
Govindoo, del. Dumphy, Lith.

Campanula fulgens (Wall)

Rungiah, del.

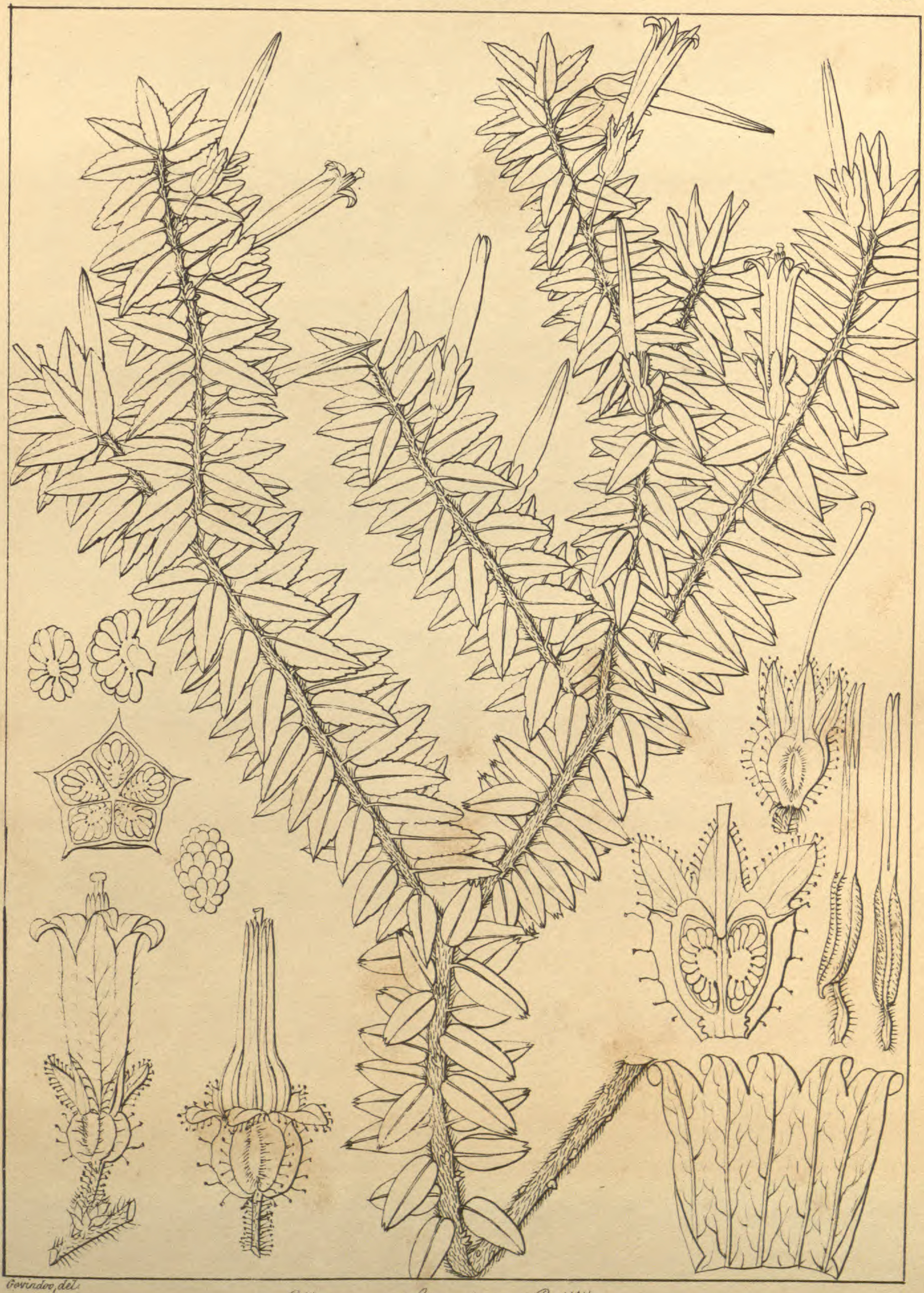
Vaccinium (A) Wallichianum (R.W.)

Vacinium (A) Verticillatum (R. W.)



Govindoo, del. Dumphy, Lith.

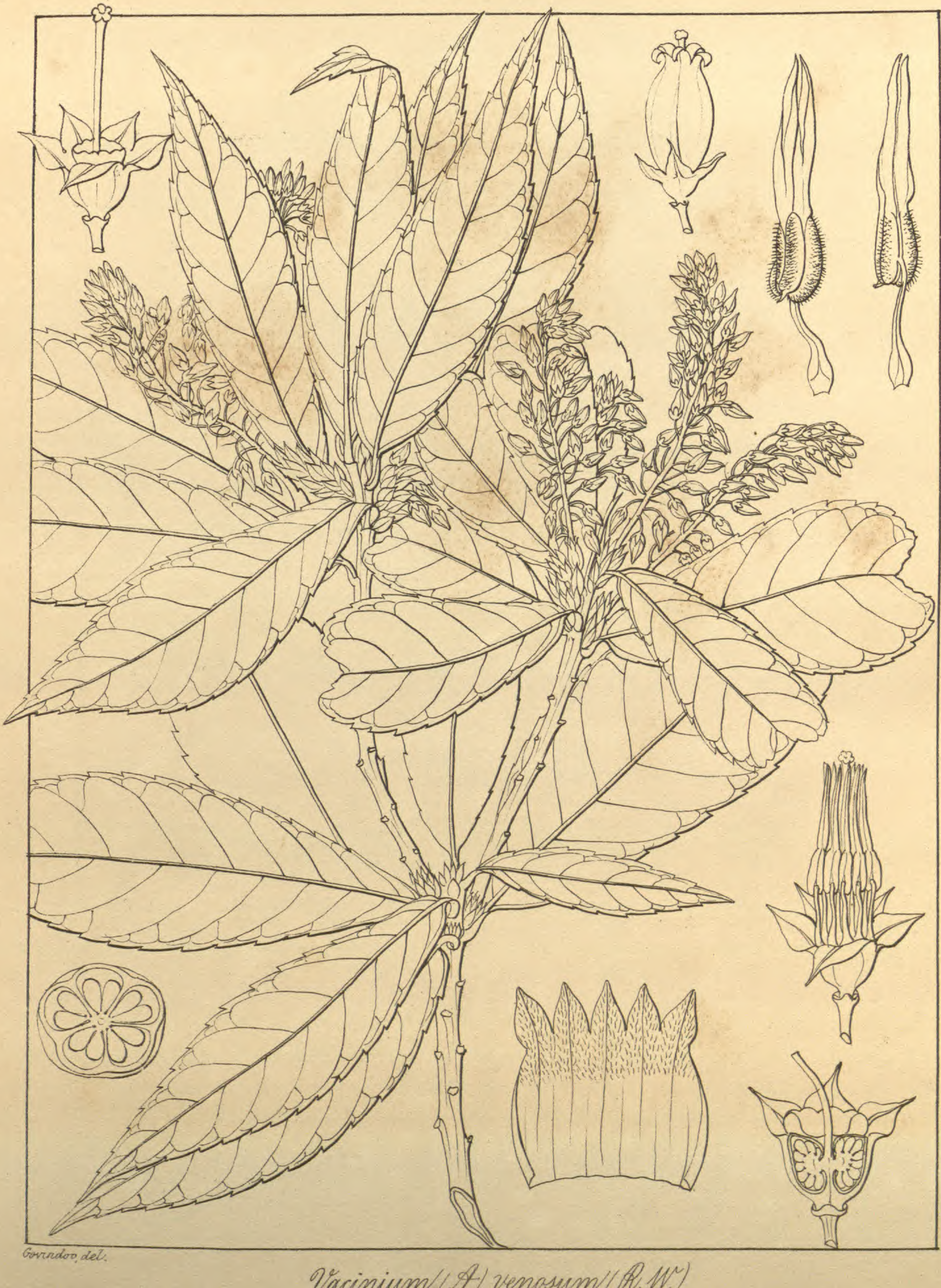
Vaccinium (Agapetes) hirsutum (R.W)



Govindoo, del.

Vacinium (A) serpens (R. W.)

Vacinium (A) serratum (R. W.)
Gaylussacia serrata (Royle D. C)



Govindoo, del.

Vacinium (A) venosum (R.W.)

Govindoo, del.

Vacinium (A) Malacca (R.W.)

Govendoo, del. Dumphy, Lith.

Vacinium odontocerum (R.W.)

Govindoo, del. Dumphy, Lith.

Vaccinium (agapetes) Leschenaultii (R.W.)
V. arboreum (Lesch. not Michx.)

Govindoo, del.

Vaccinium (Agapetes Neilgherrense) R. W.

Govindoo, del.

Vacinium (A) affine (R.W)

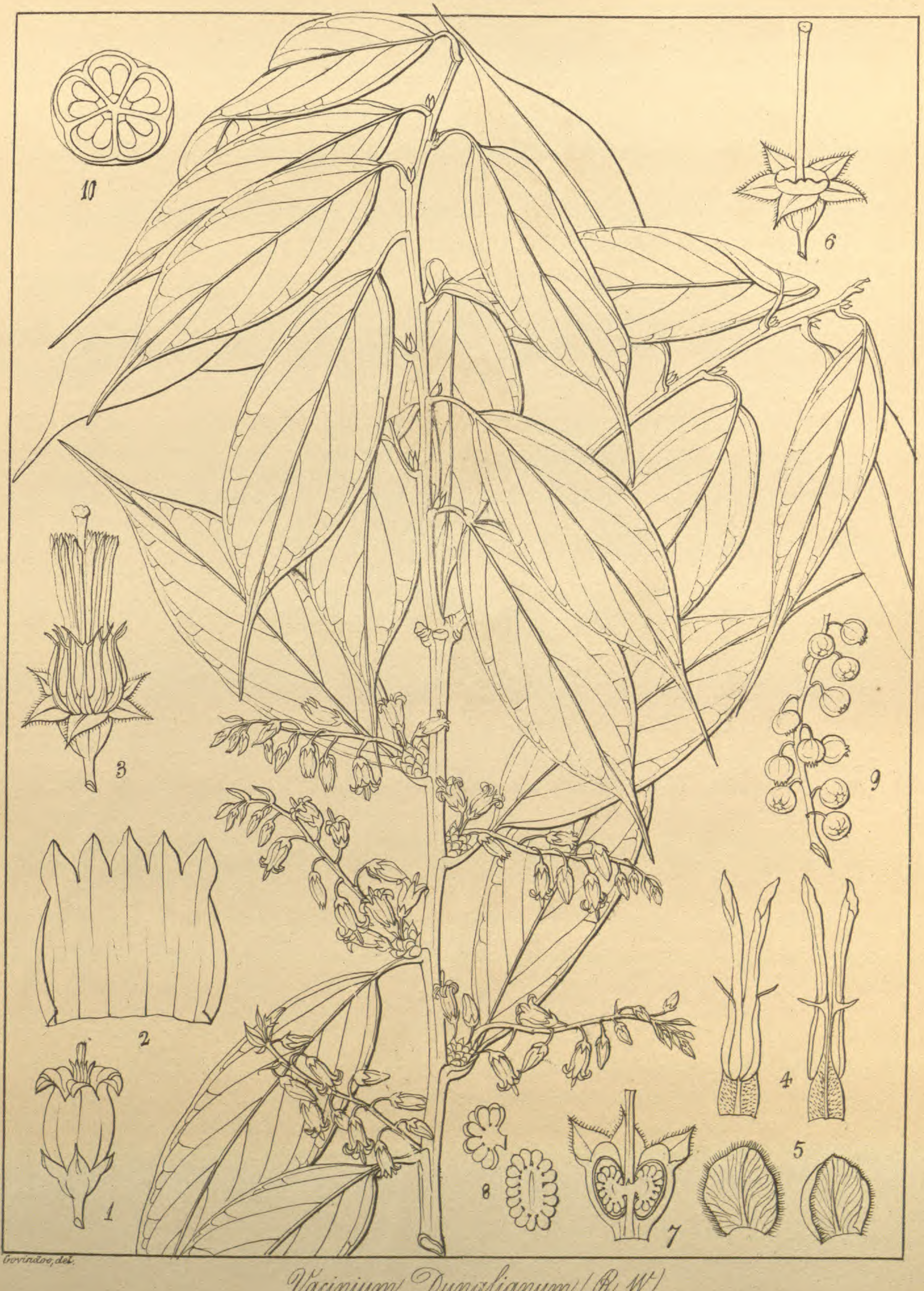
Govindoo, del. Dumphy, Lith.

Vacinium (A.) Donnianum (R.W.)

Vacinium (A) Griffithianum (R.W.)

Govindoo, del. Dumphy, Lith.

Vacinium (A) obovatum (R.W.)



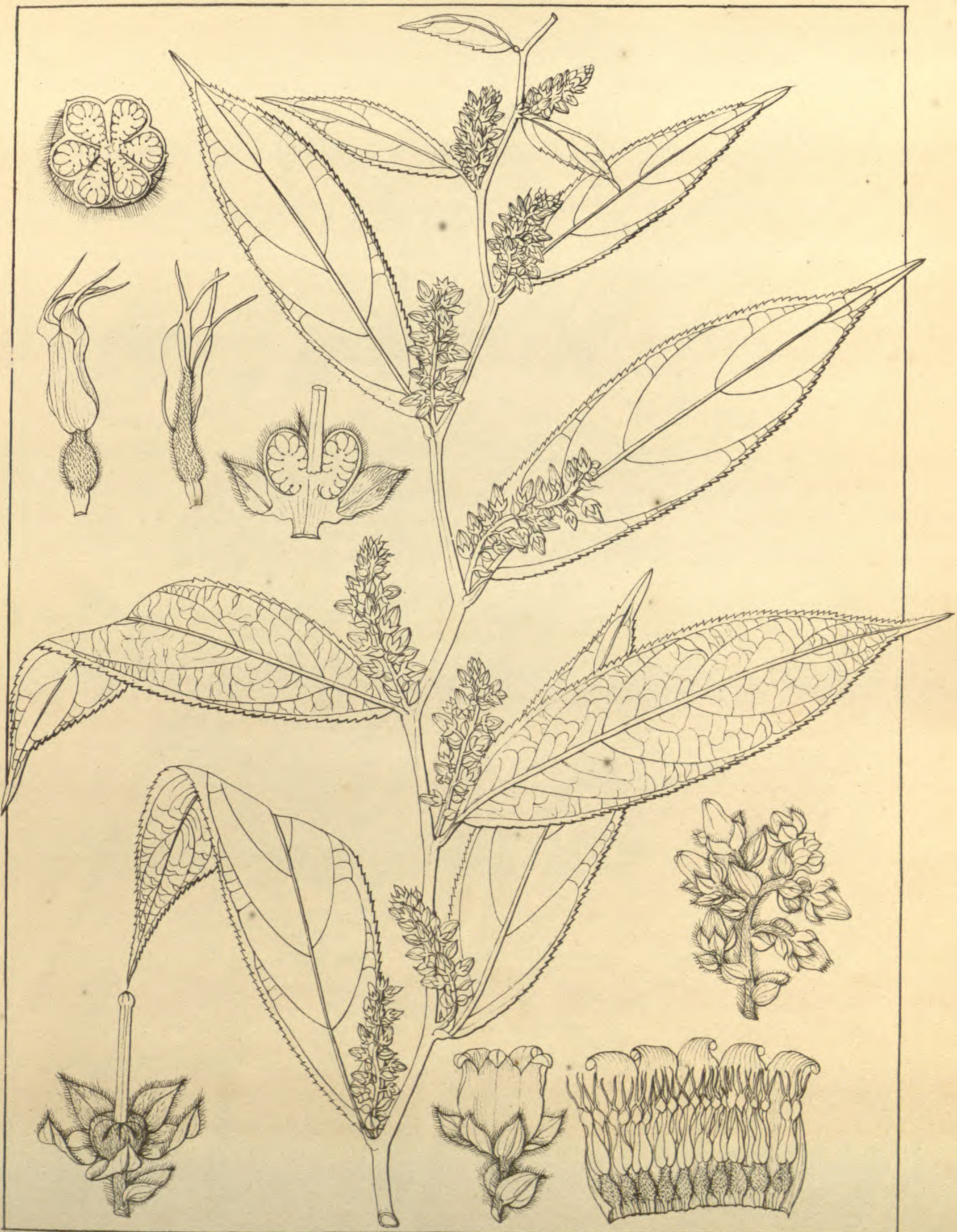
Govindoo, del.

Vacinium Dunalianum (R.W.)

Gualtheria Leschenaultii (B.C)

Govindoo, del.

Gualtheria fragrantissima (Wall)



Rungiah, del.

Gaultheria Griffithiana (R.W.)

Govindoo, del. Dumphy, Lith.

Andromeda (P) lanceolata (Wall)

Govindoo, del. Dunphy, Lith.

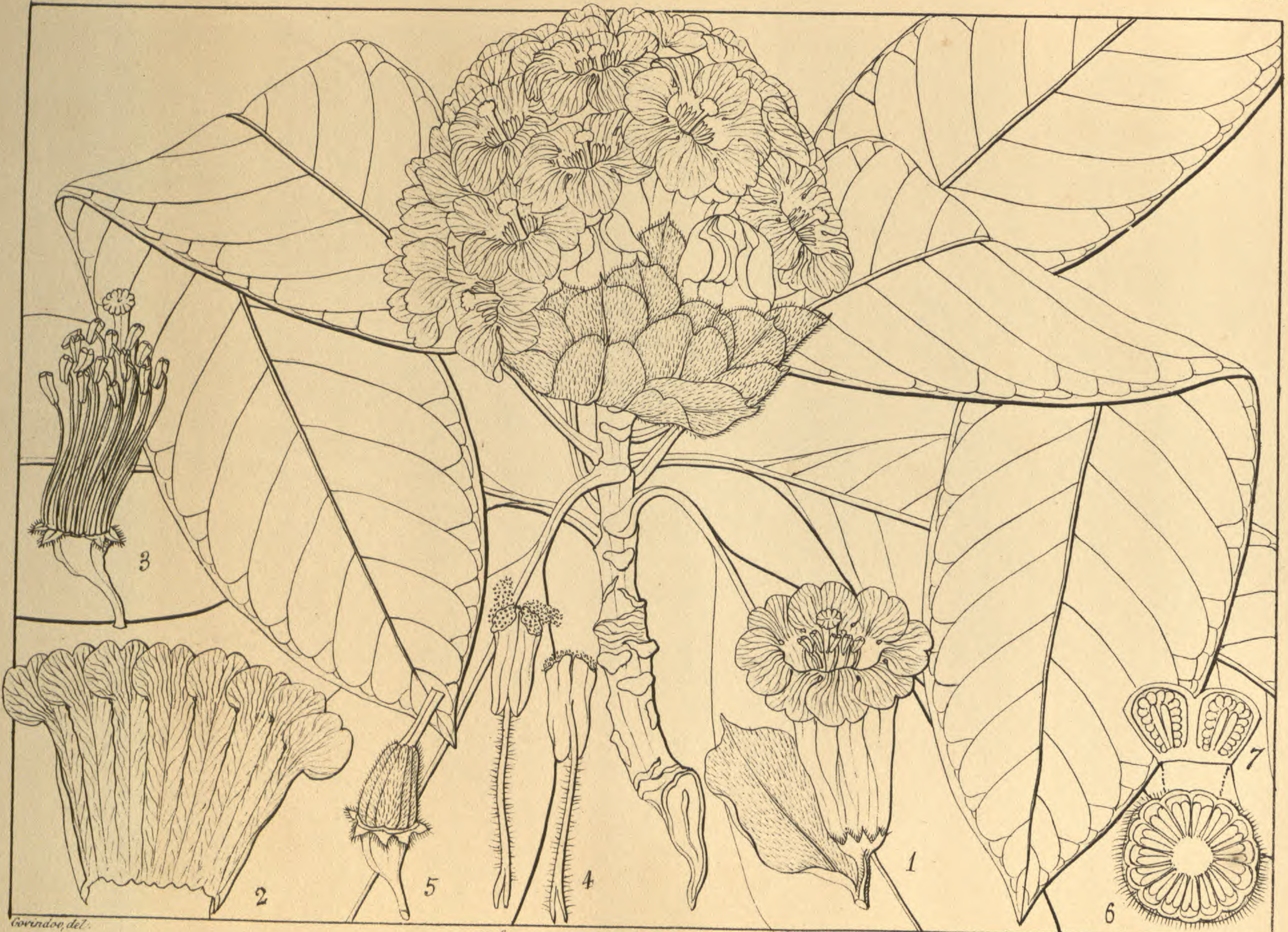
Andromeda (P) ovalifolia (Wall)

Govindoo, del.

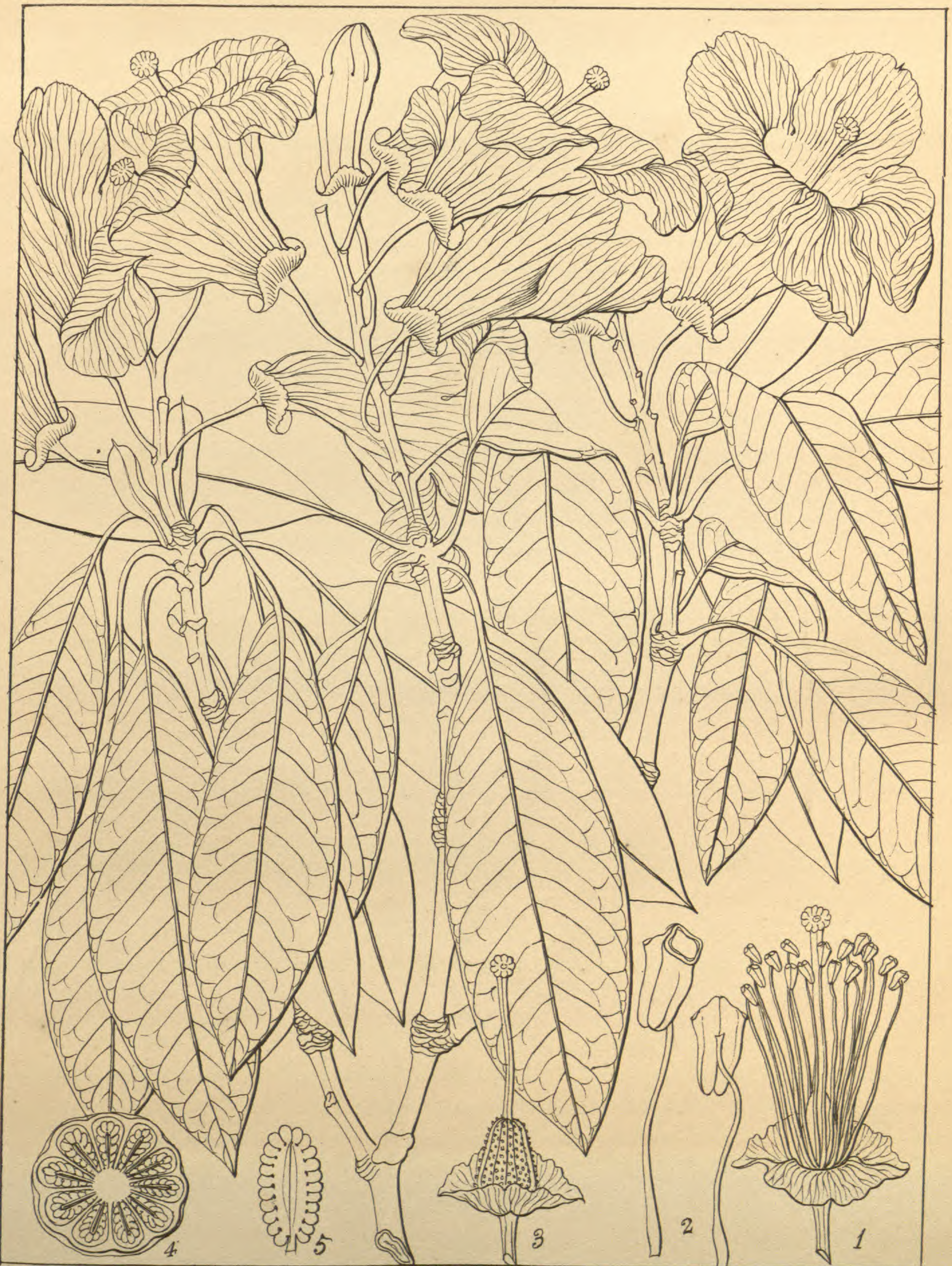
Andromedea (P.) formosa (Wall)

Govindoo, del. Dumphy, Lith.

Rhododendron arboreum (Smith)
— var β roseum (Lindley)



Rhododendron grande (R. W.)



Govindoo, del.

Rhododendron Griffithianum (R.W.)

Govindoo, del. Dunphy, Lith.

Lysimachia (E) Leschenaultii (Duby)

Govindoo, del.

Anagallis latifolia (Linn)

Govindoo, del.

Mæsa Indica (Alph D.C)

Govindoo, del.

Embelia Ribes (Burm)

Govindoo, del. Dumphy, Lith.

Embelia Gardnerian (R.W.)

Rungiah, del. Dumphy, Lith

Embelia Tsjeriam Cottam (A.C. D.C.)

Choripetalum aurantiacum (Alph. D.C.)

Govindoo, del.

Myrsine capitellata (Wall.)

Govindoo, del.

Ardesia humilis (Vahl)

Govindoo, del. Dumphy, Lith.

Ardisia rhomboidea (R. W.)

Govindoo, del. Dumphy, lith.

Ardisia pauciflora (Heyne D.C.)

Govindoo, del. Dunphy, Lith.

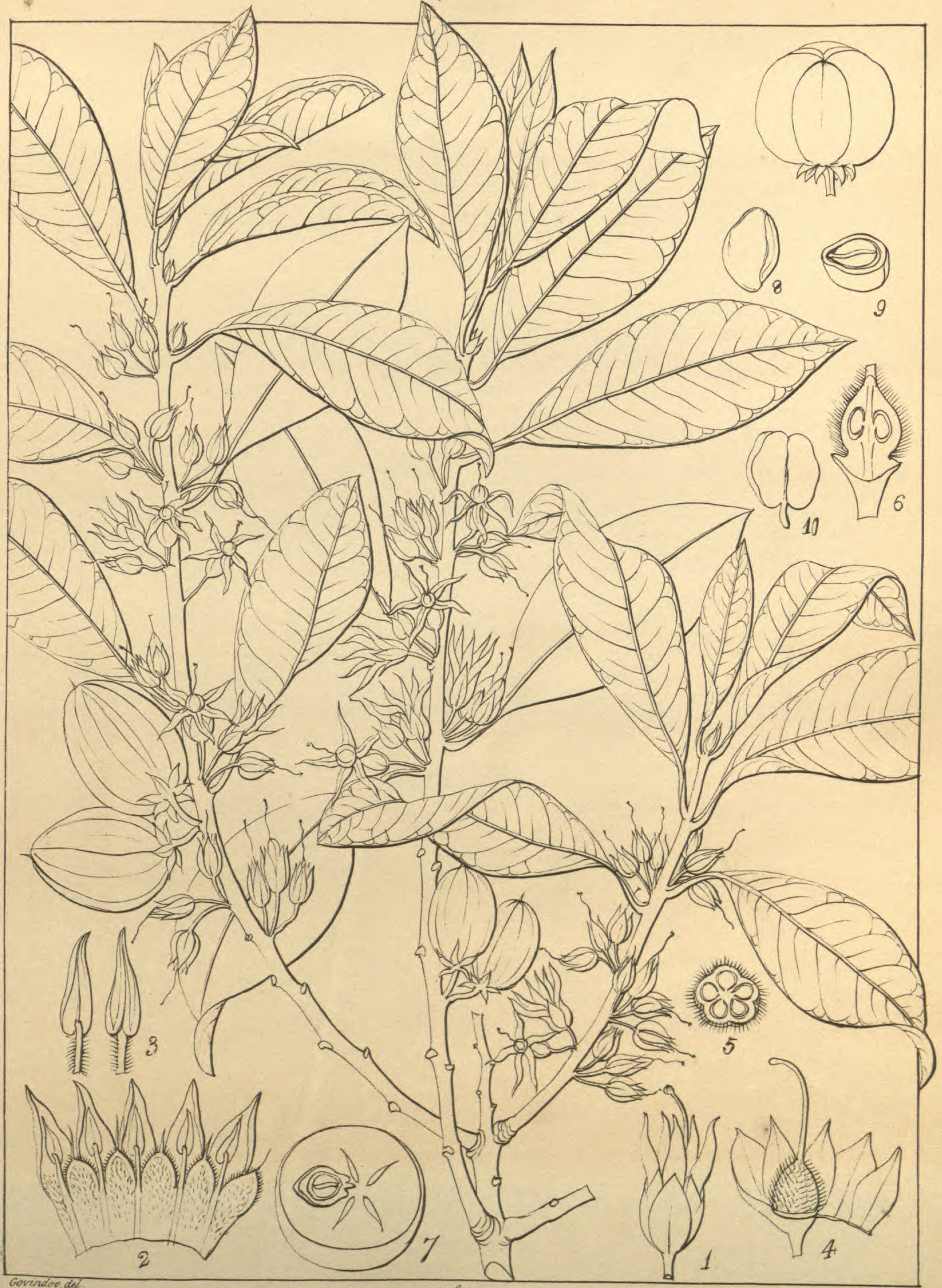
Ardisia Courtallensis (R.W.)

Govindoo, del.

Ilix Wightiana (Wall)

Govindoo, del.

Ilex Gardneriana (R. W.)



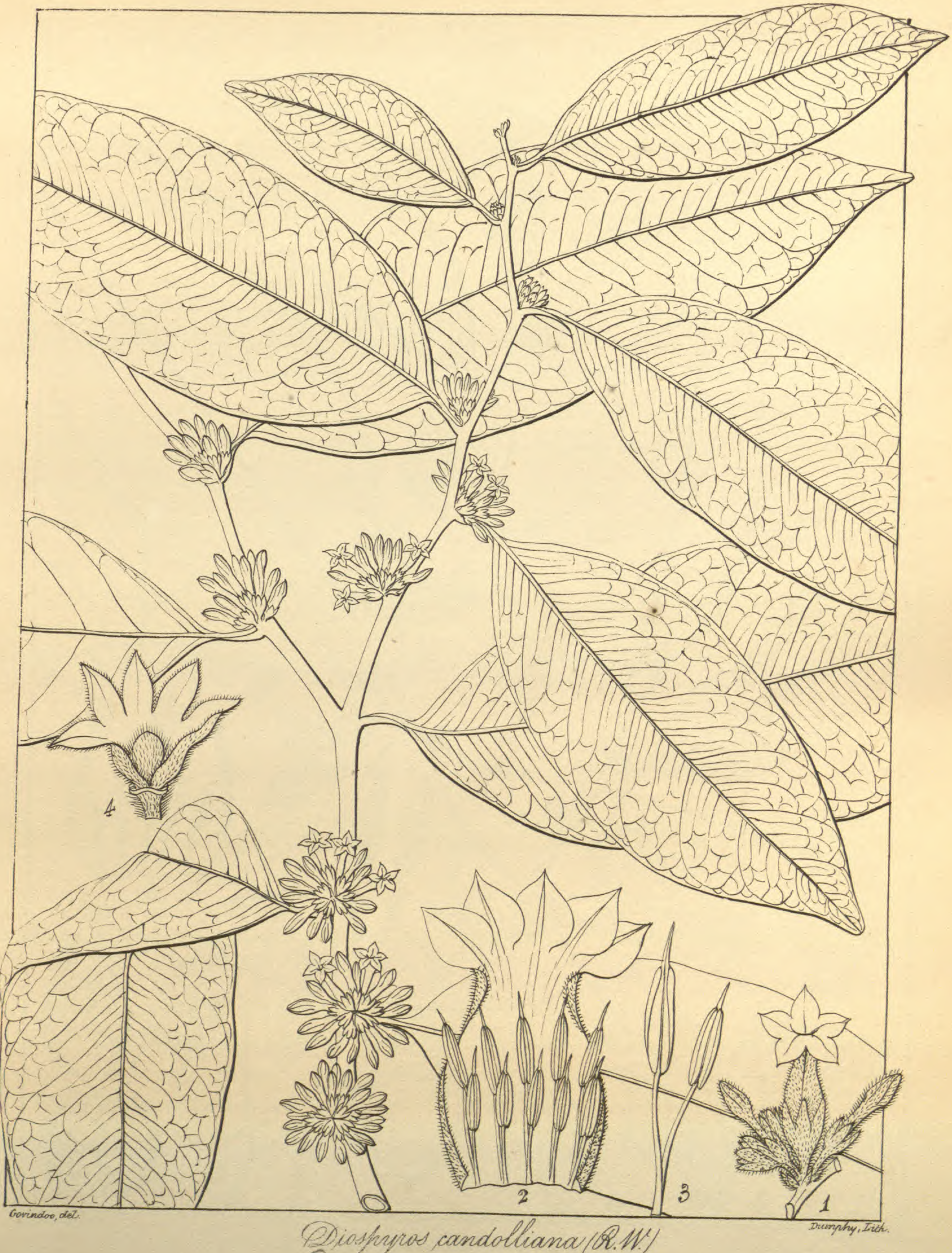
Govindoo, del.

Sapota Elengoides (A.C. D.C.)

Isonandra Perrottetiana (Al. D.C.)

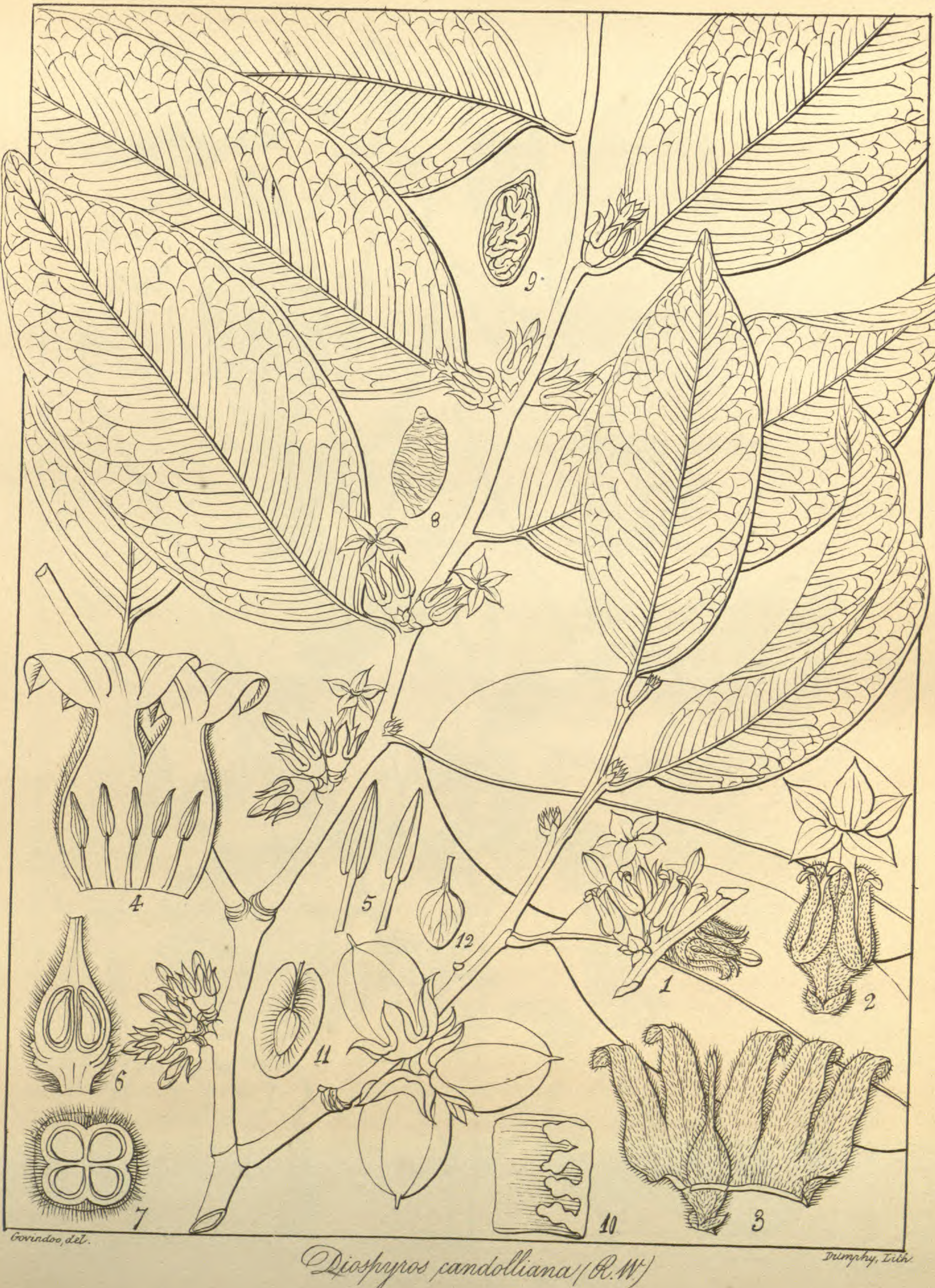
Govindoo, del.

Isonandra Candolliana (R.W.)



Govindoo, del. Dumphy, Lith.

Diospyros candolliana (R.W.)



Govindoo, del. Dumphy, Lith.

Diospyros candolliana (R.W.)

Govindoo, del. Dumphy, Lith.

Diospyros dubia ♂ (Wall)

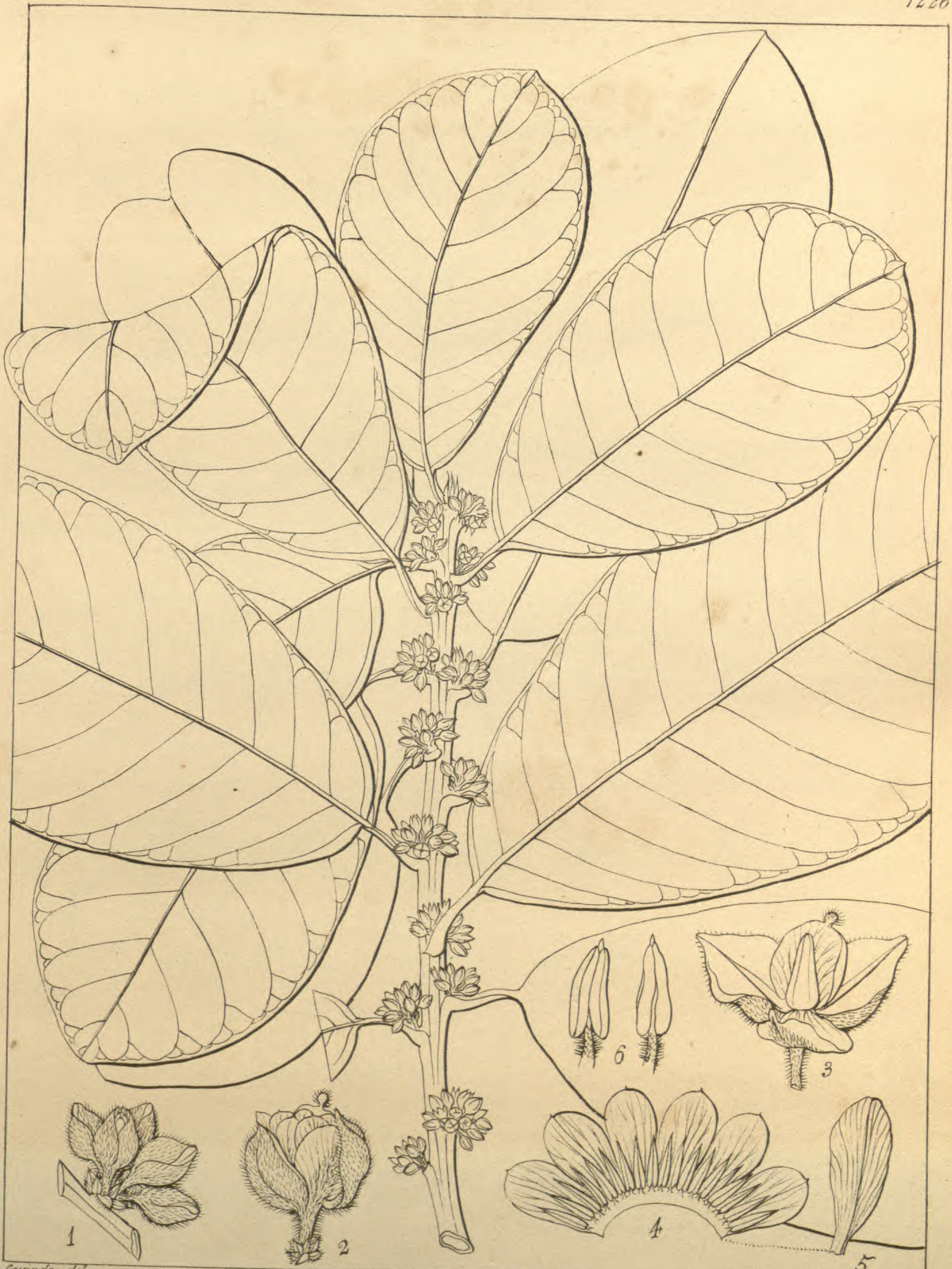
Govindoo, del.

Dumphy, Lith.

Diospyros capitulata ♂ (R. W.)

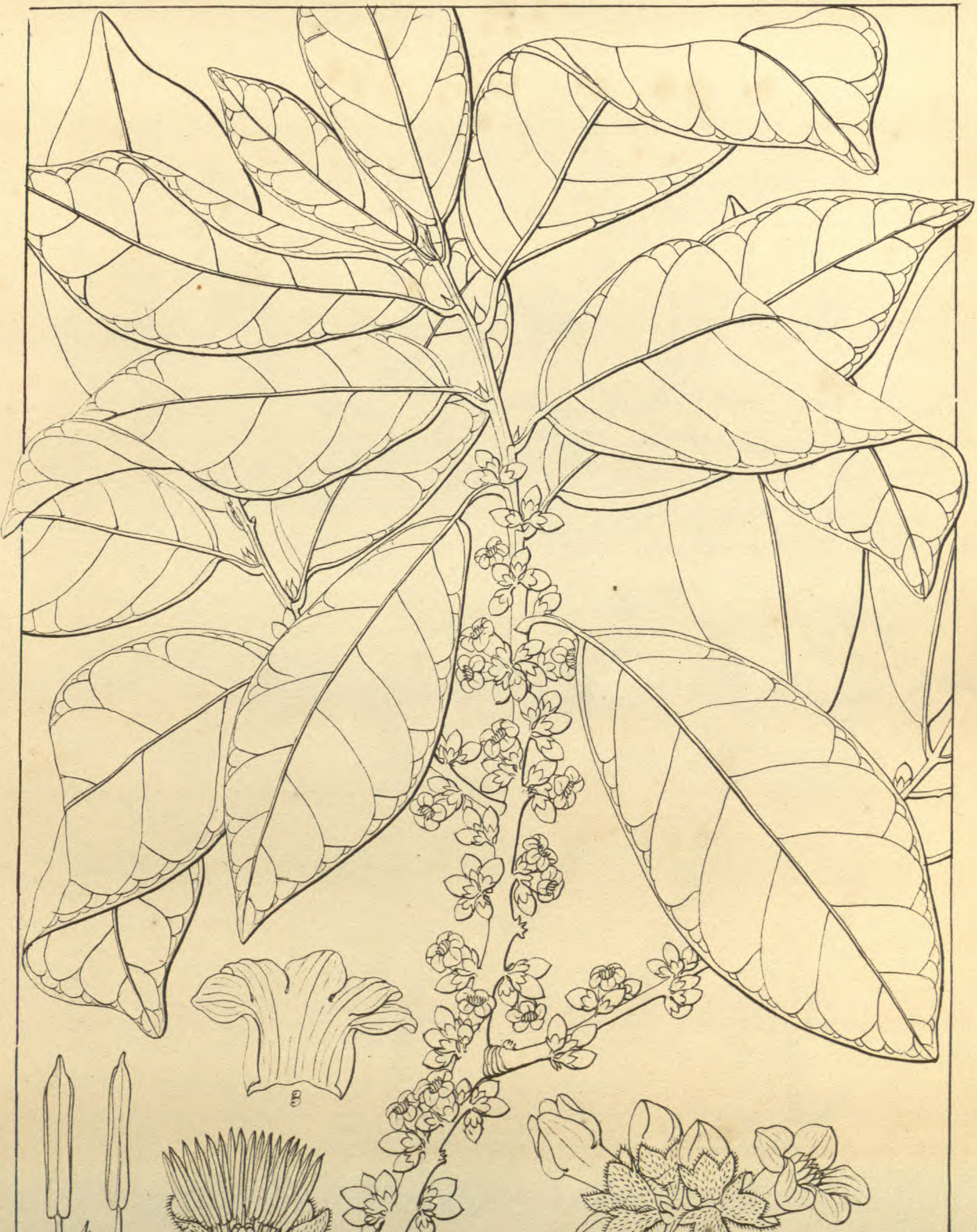
Govindoo, del. Dumphy, Lith

Diospyros montana ♀ (Roxb)



Govindoo, del.

Diospyros obovata (R.W.)



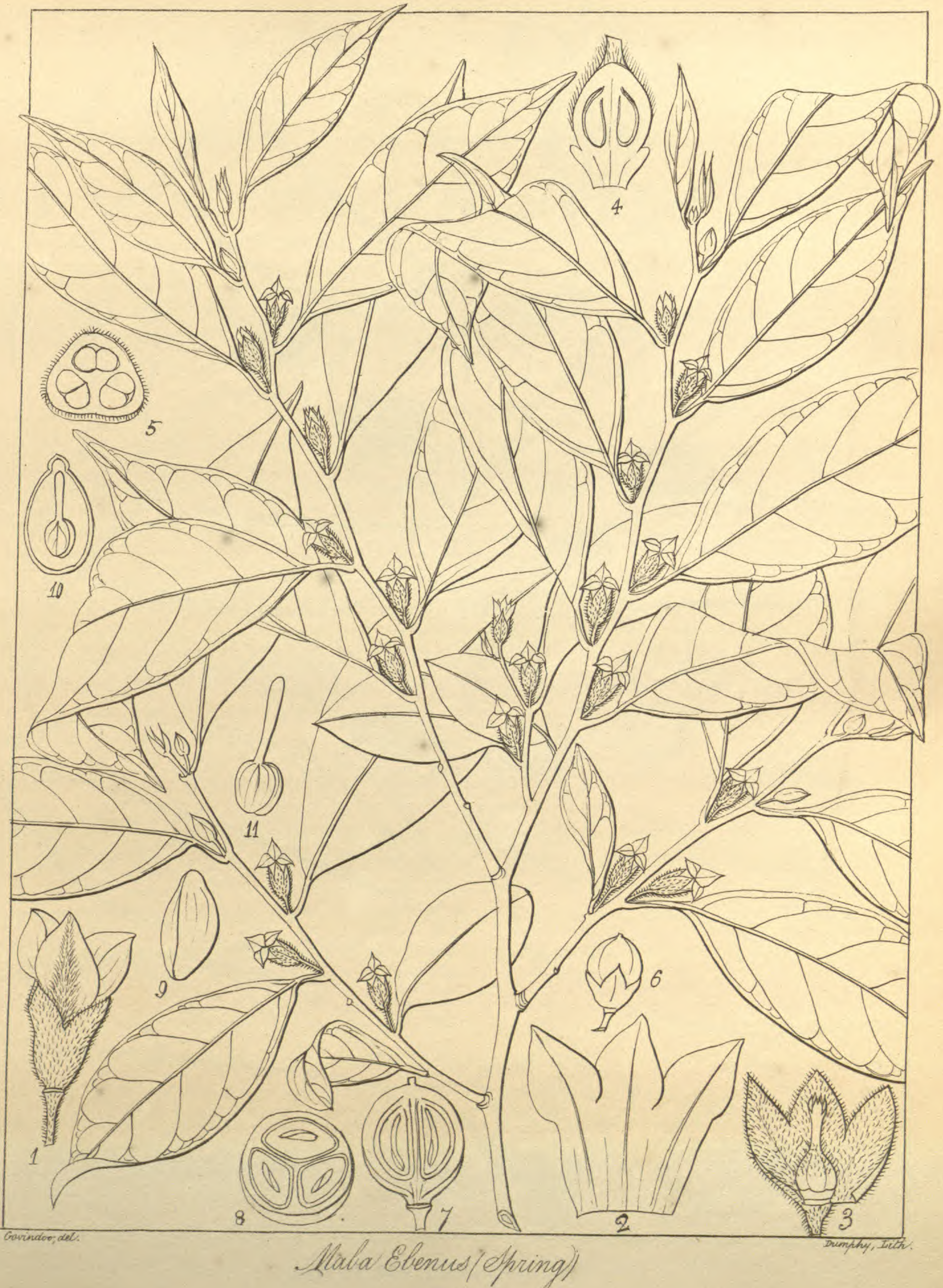
Govindoo, del. Dumphy, Lith.

Diospyros ovalifolia (R.W.)

Govindoo, del.

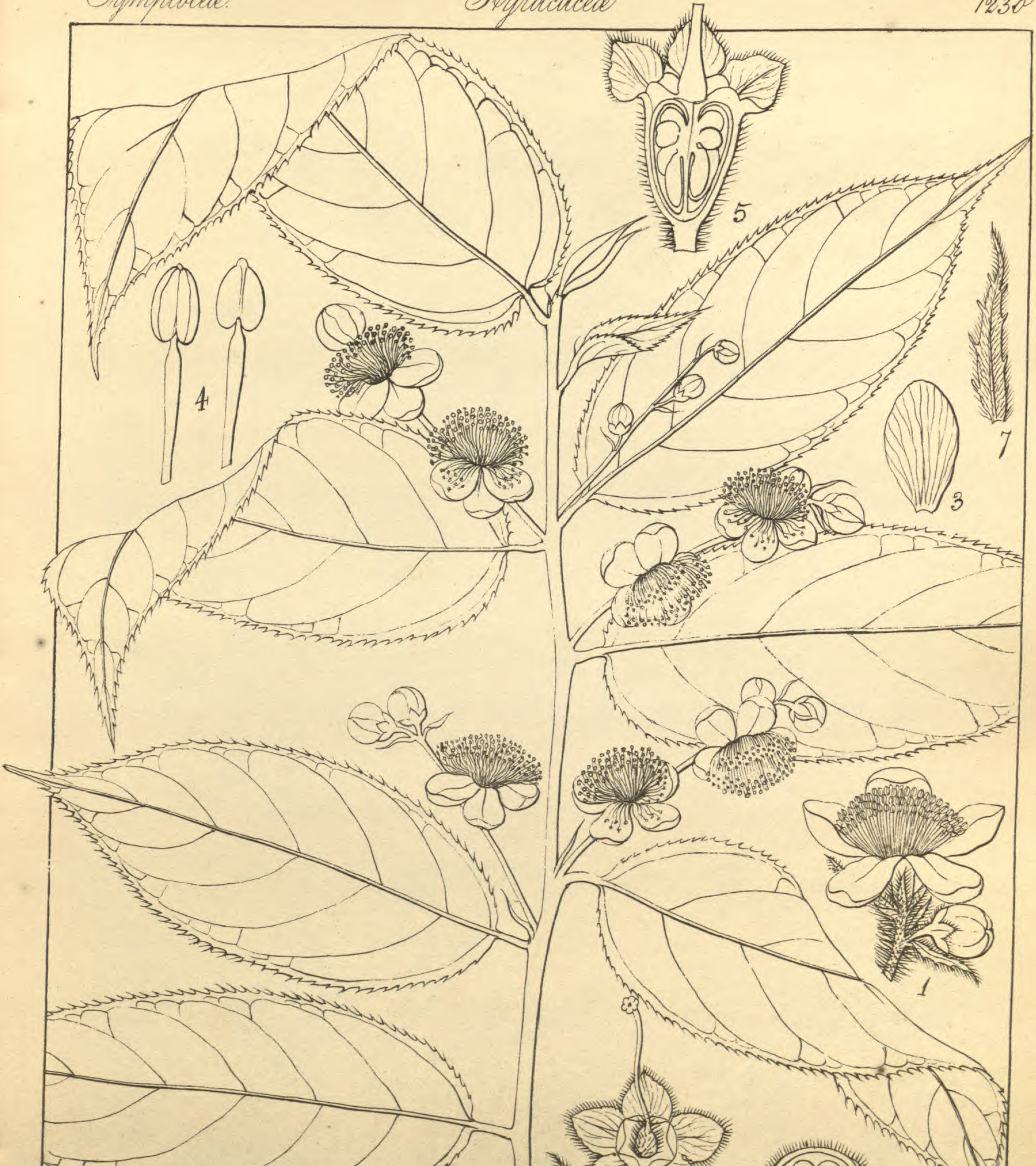
Dumphy, Lith.

Maba Ebenus (Spring)



Govindoo, del. Dumphy, Lith.

Maba Ebenus (Spring)



Govindoo, del. Dumphy, Lith.

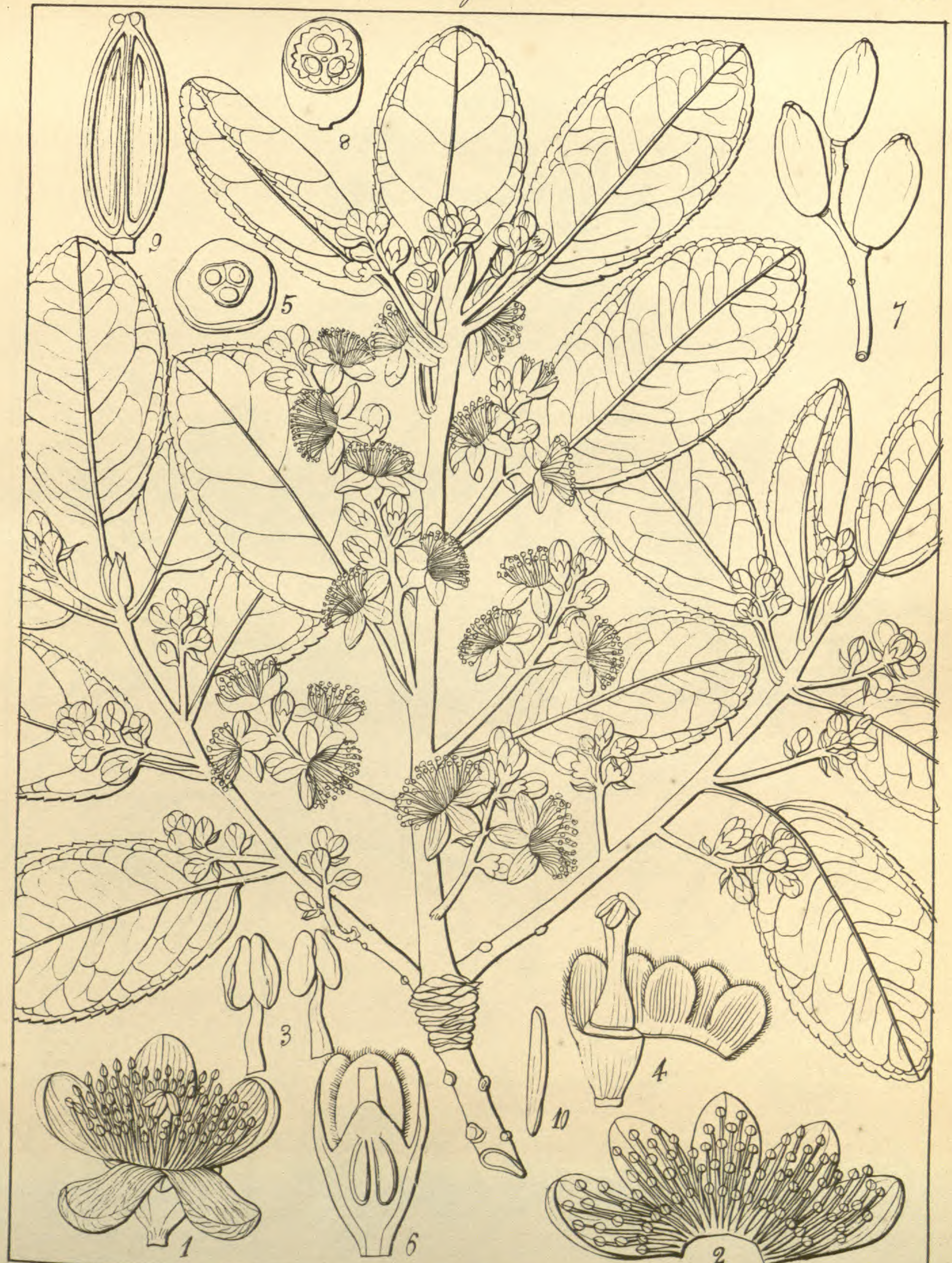
Symplocos pulchra (R.W.)

Govindoo, del. Dumphy, Lith.

Symplocos Gardneriana (R.W.)

Govindoo, del. Dunphy, Lith.

Symplocos microphylla (R.W.)



Govindoo del.

Dunphy, Lith.

Simplocos obtusa (Wall)

Govindoo, del. Dunphy, Lith.

Symplocos foliosa (R.W.)

Govindoo, del. Dunphy, Lith.

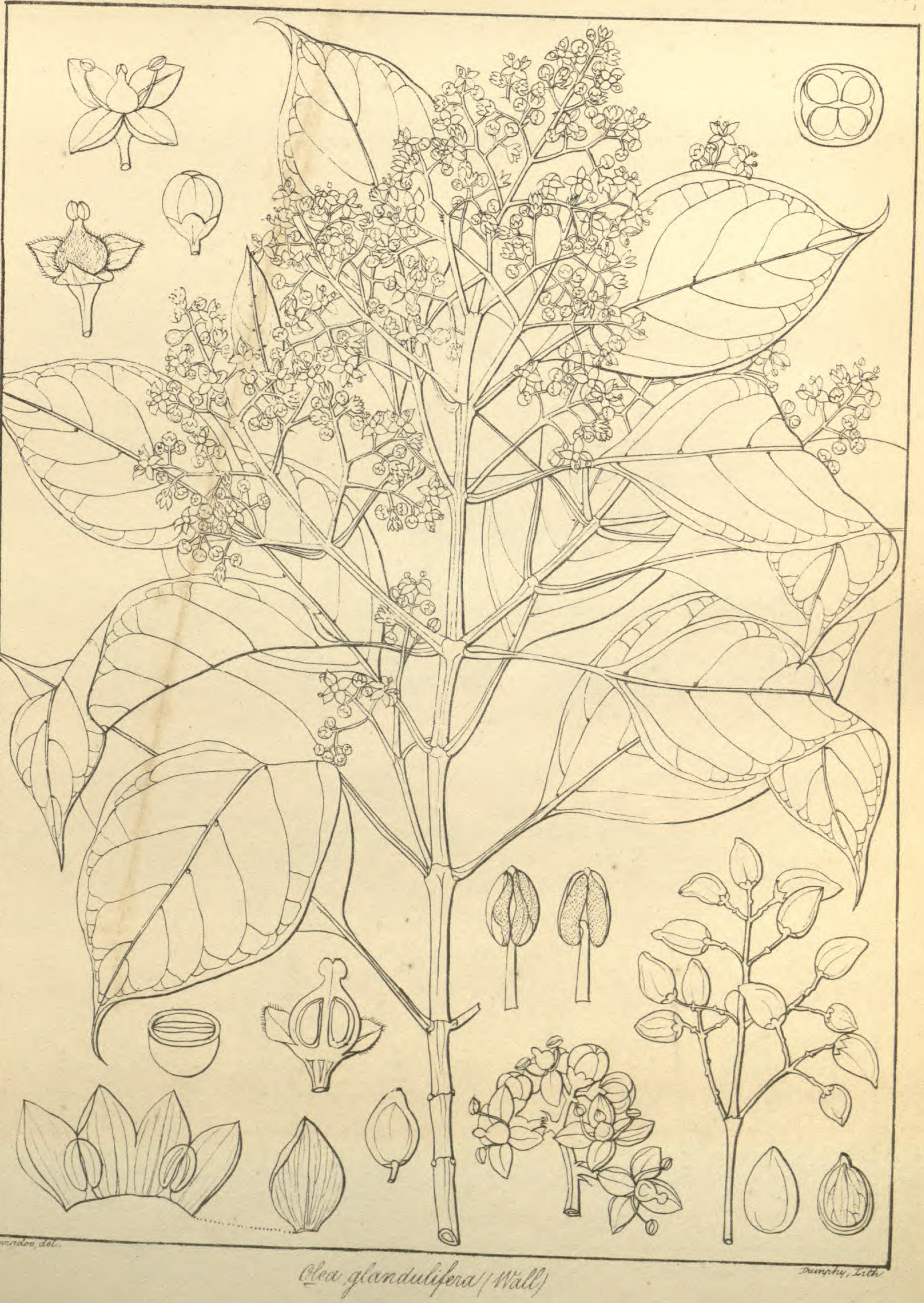
Symplocos nervosa (Al DC)

Govindoo, del. Dumphy, lith.

Symplocos monantha (R.W.)

Govindoo, del. Dunphy, Lith.

Symplocos pendula (R.W.)



Govindoo, del.

Dunphy, Lith.

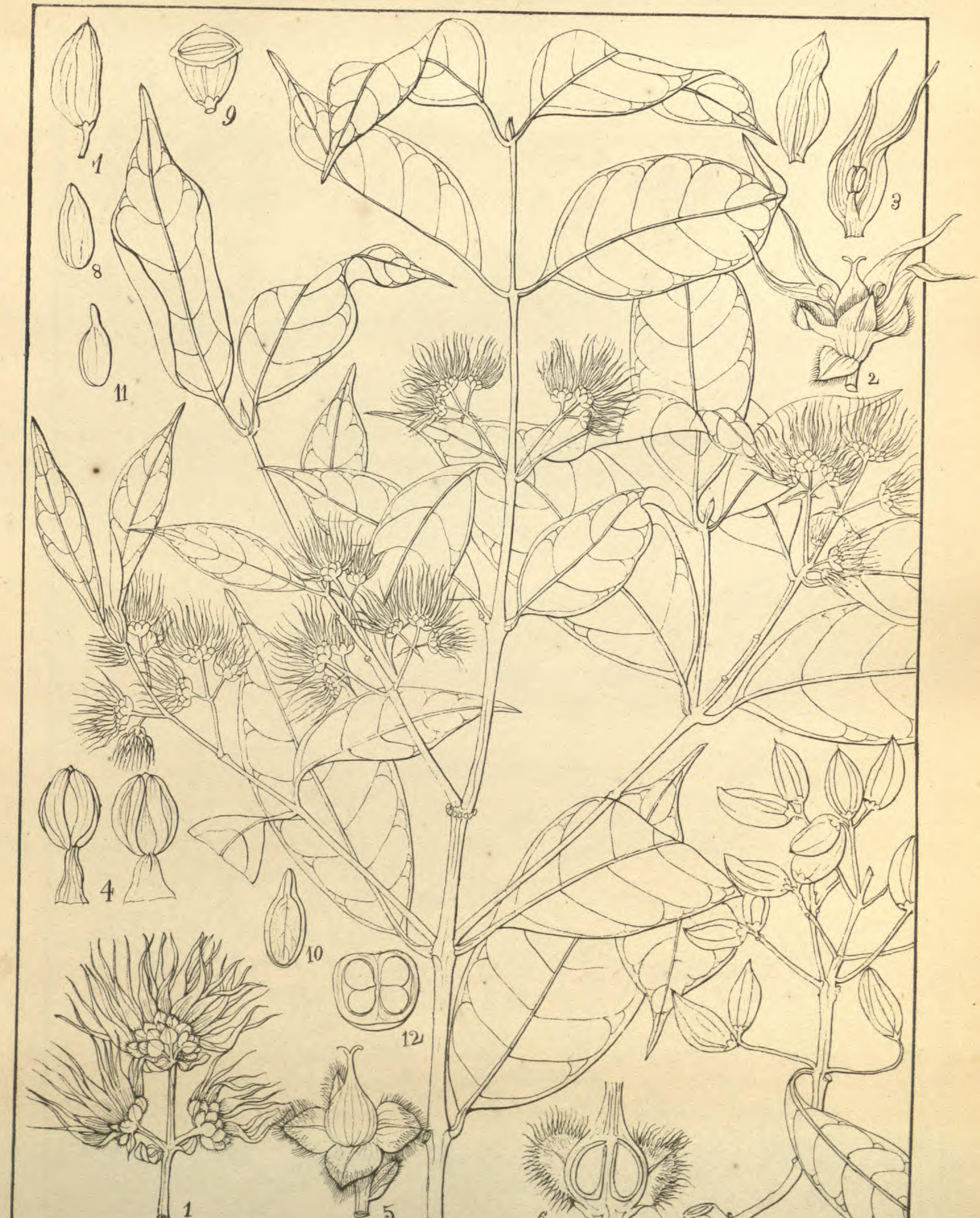
Olea glandulifera (Wall)

Govindoo, del. Dunphy, Lith.

Olea polyama ♂ (R.W.)

Govindoo, del. Dumphy, Lith.

Olea polygama ☿ (R.W.)



Govindoo, del. Dumphy, Lith.

Olea Linocierodes

Govindoo, del. Dumphy, Lith

Olea robusta (Wall)
Visiania robusta (D.C)

Govindoo, del. Dumphy, Lith.

Ligustrum Neilgherrense (R.W.)

Govindoo, del. Dumphy, Lith.

Ligustrum Perrottetii (Alph D.C.)

Govindoo, del. *Dumphy, Lith.*

Linociera intermedia (R.W.)

Dumphy, Lith.

Linociera Malabarica (Wall)

Govindoo, del. Dunphy, Lith.

Jasminum rigidum (Zenker)

Govindoo, del. Dumphy, Lith.

Jasminum fractiatum. (Roxb.)

Govindoo, del. Dumphy, Lith.

Jasminum Rottlerianum (Wall.)

Govindoo, del. Dumphy, Lith.

Jasminum Malabaricum (R.W.)

Jasminum cretiflorum (Aph. D.C.)

Govindoo, del.

Dunphy, Lith.

Jasminum courtallense (R.W.)

Govindoo, del. Dunphy, Lith.

Jasminum flexile

Govindoo, del. Dumphy, Lith.

Jasminum brevelobum (Alph. D.C.)

Govindoo, del.

Dunphy lith.

Jasminum affine (R. W.)

Govindoo, del. Dumphy, Lith

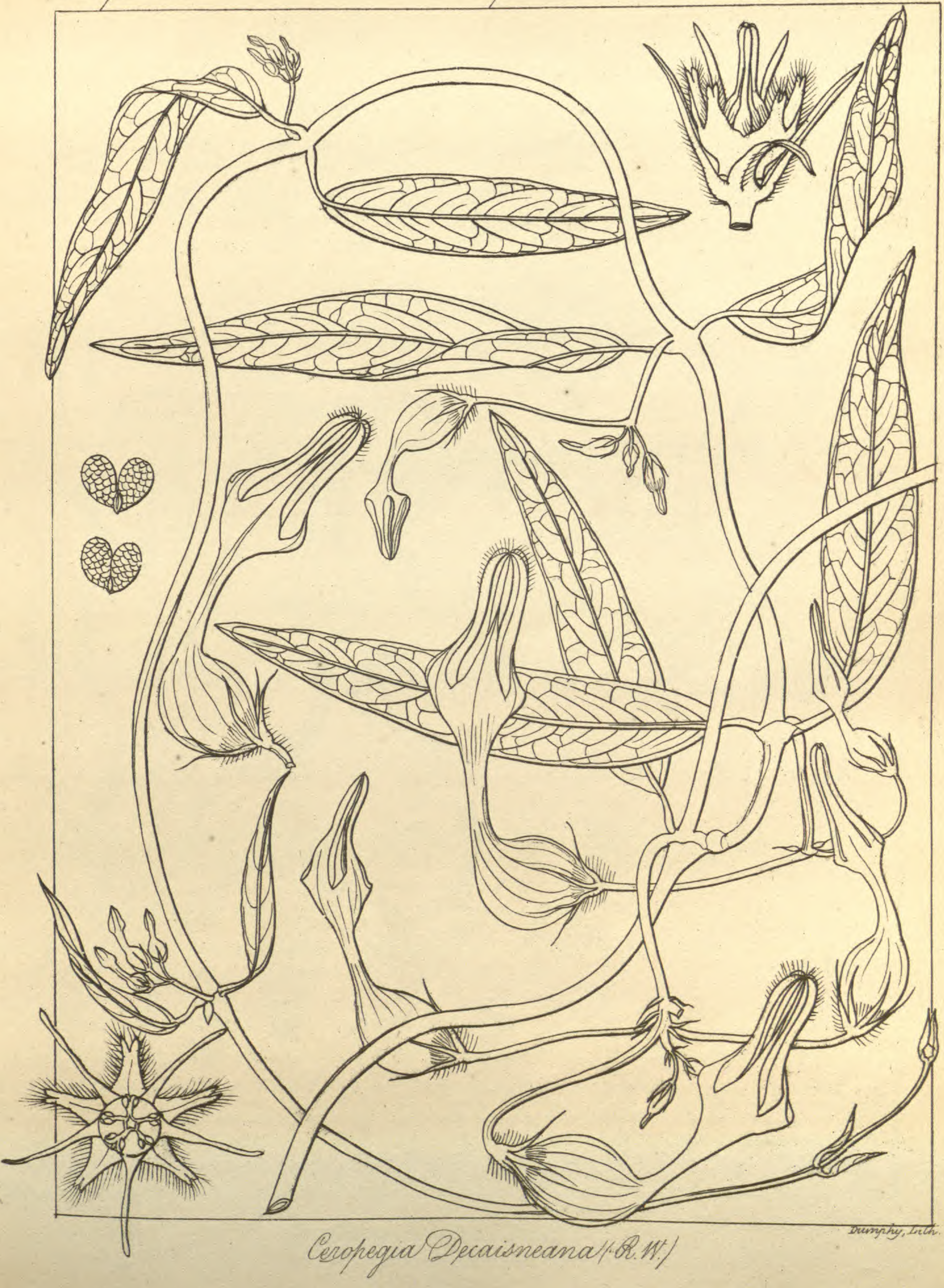
Jasminum ovalifolium (R.W.)

Govindoo, del. Dumphy, Lith.

Jasminum grandiflorum (Linn)

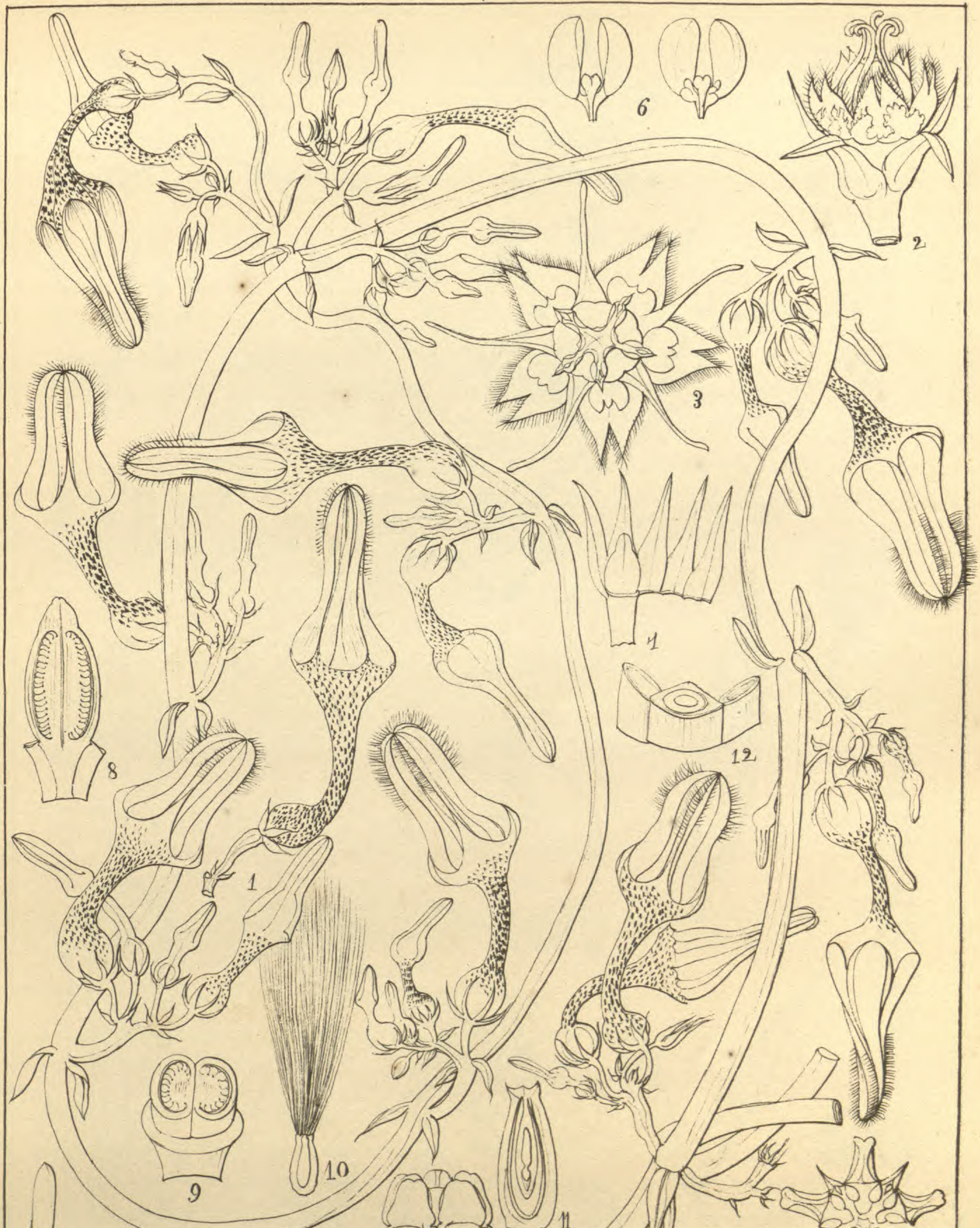
Rungiah, del. Dumphy, Lith.

Jasminum revolutum (Sim)



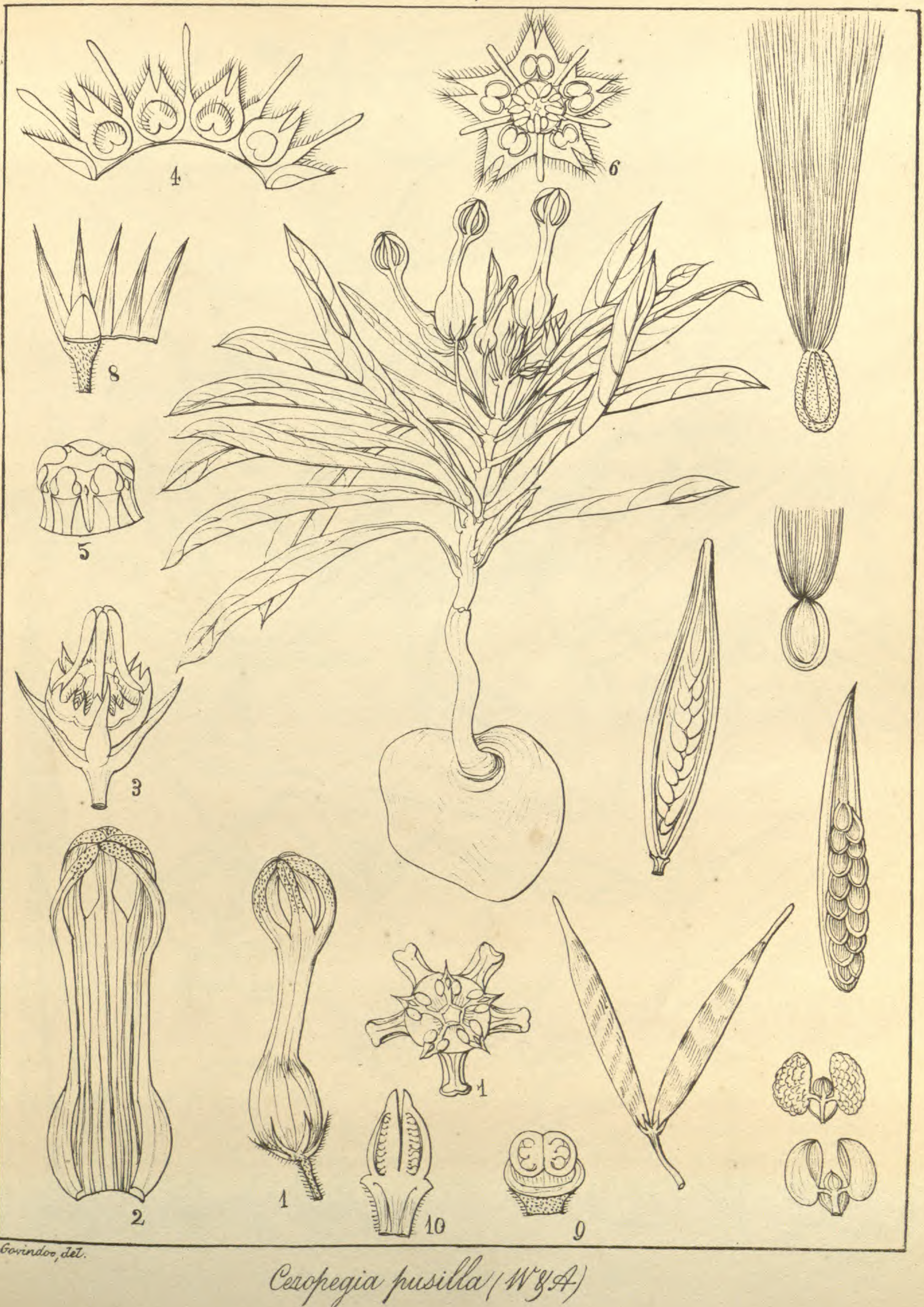
Ceropegia Decaisneana (R.W.)

Dumphy, Lith.



Govindoo, del.

Ceropegia juncea (Roxb)

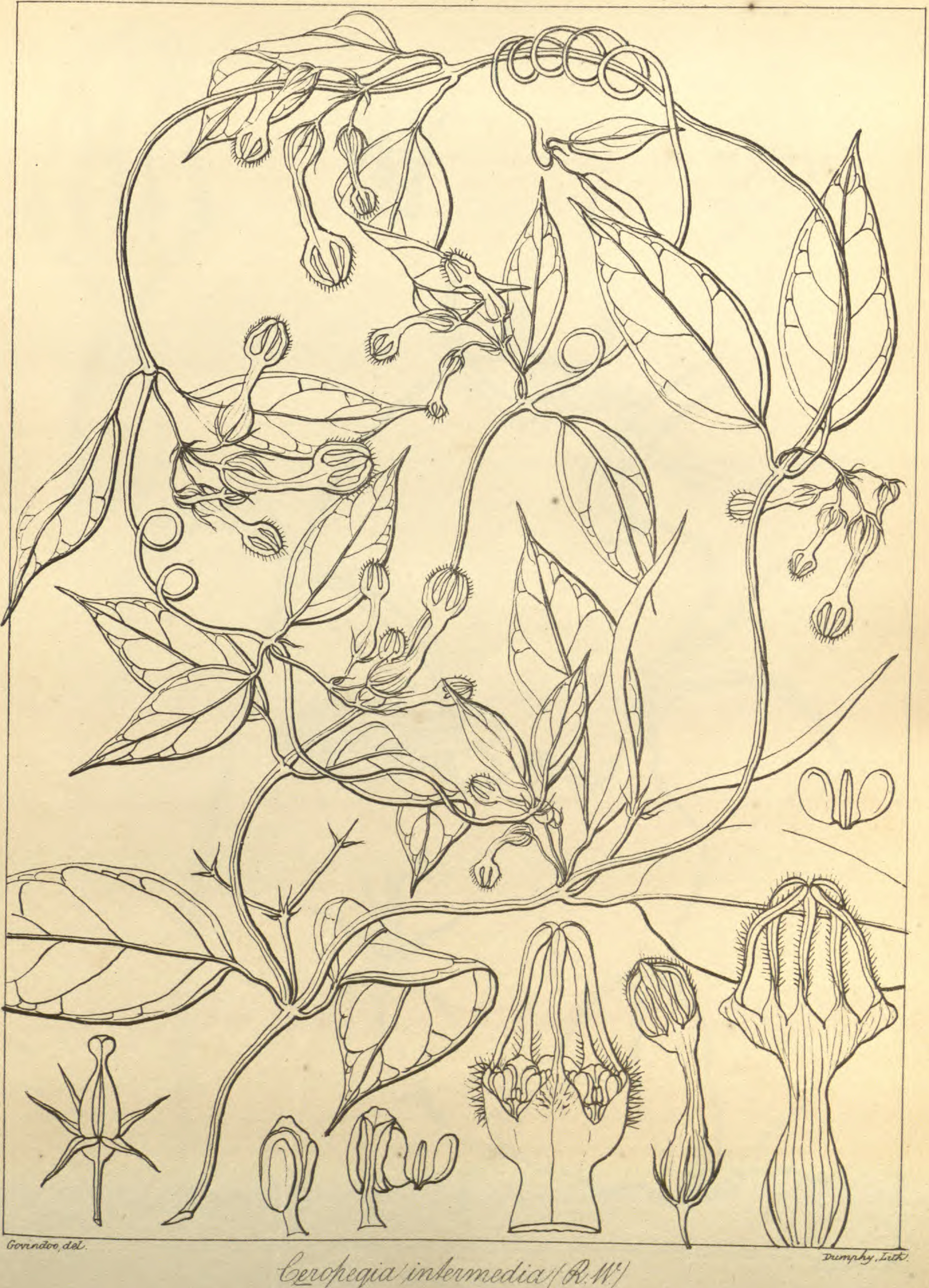


Govindoo, del.

Ceropegia pusilla (W & A)

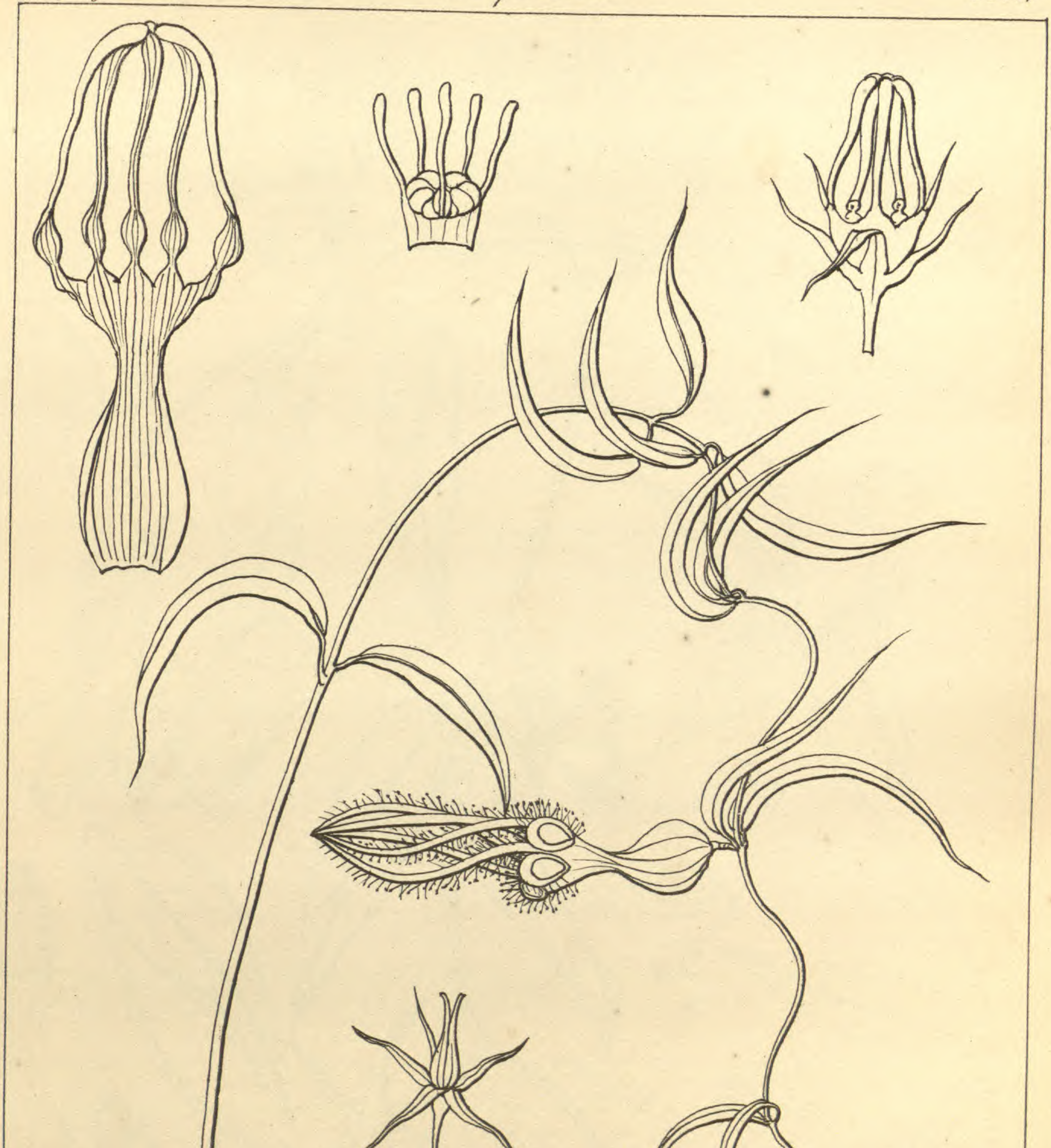
Govindoo del. Dumphy Lith.

Ceropegia ciliata (R. W.)



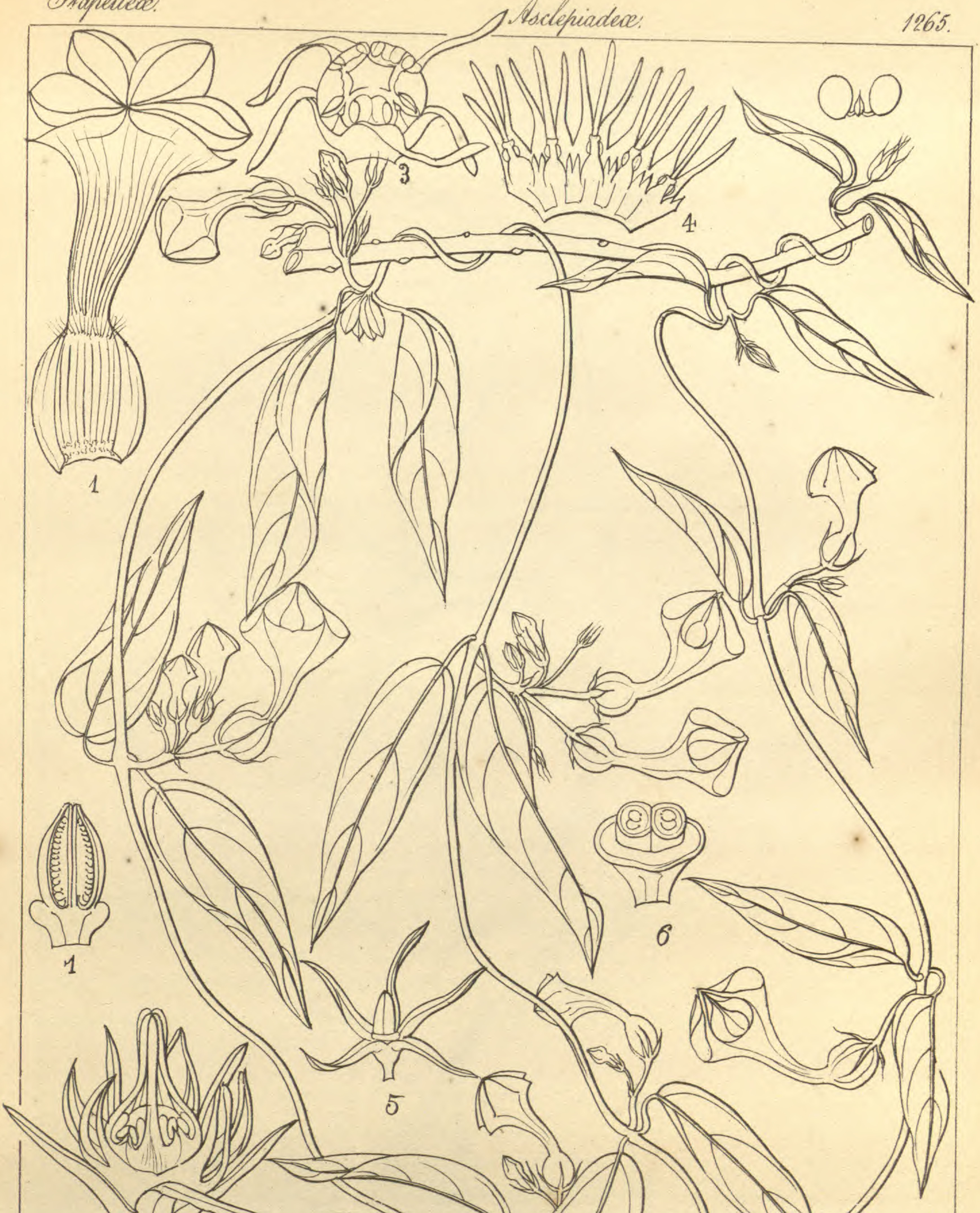
Govindoo, del. Dumphy, Lith.

Ceropegia intermedia (R.W.)



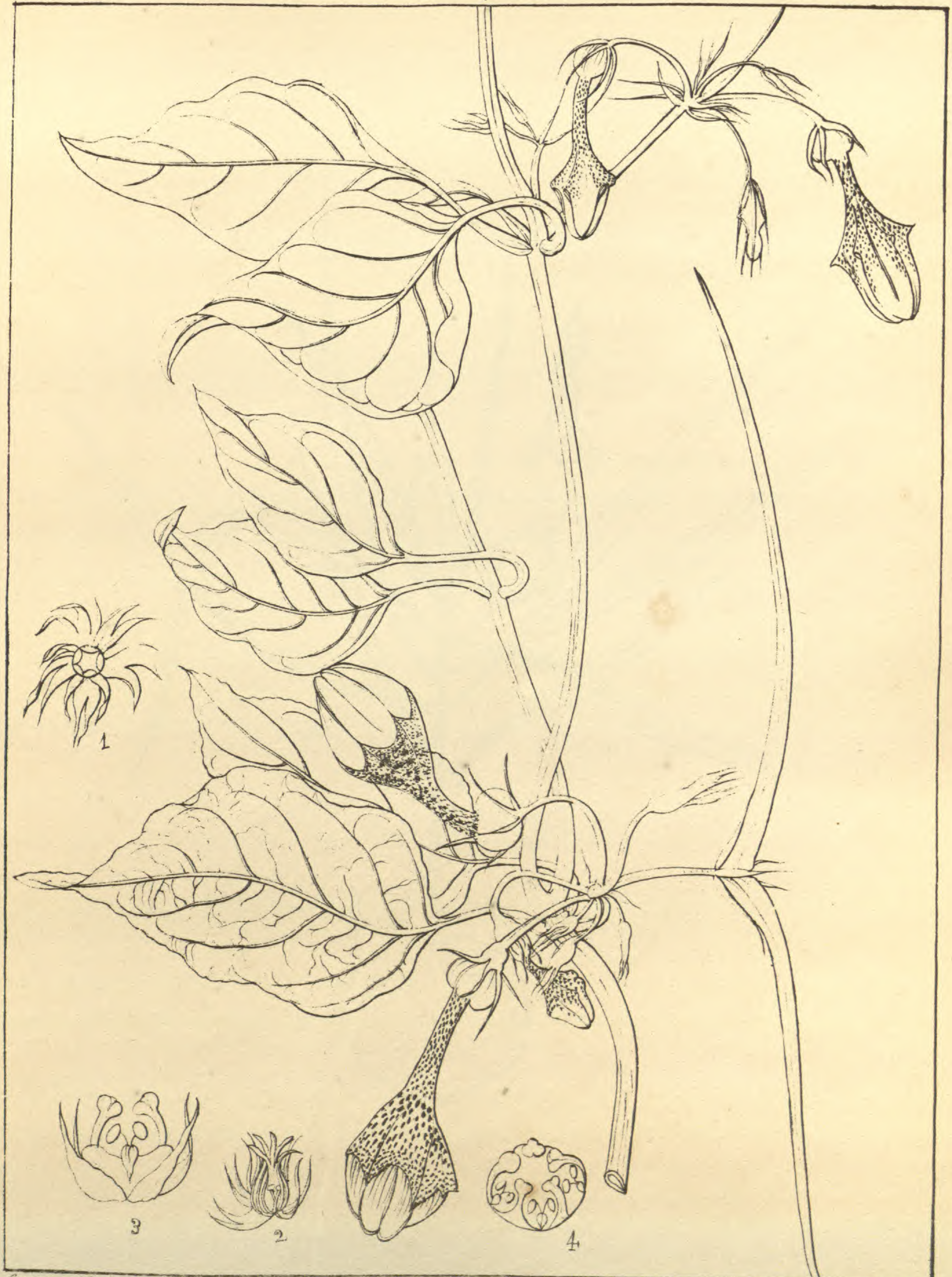
Govindoo, del. Dumphy, Lith.

Ceropegia munronii (R.W.)



Govindoo del. Dumphy Lith.

Ceropegia eligans (Wall.)



Govindoo, del. Dumphy, Lith.

Ceropegia Walkeriæ (R. W.)

Govindoo, del. Dumphy, Lith.

Ceropegia spiralis (R.W.)

Govindoo, del. Dumphy, Lith

Caralluma attenuata (R.W.)

Govindoo, del.

Dunphy, Lith.

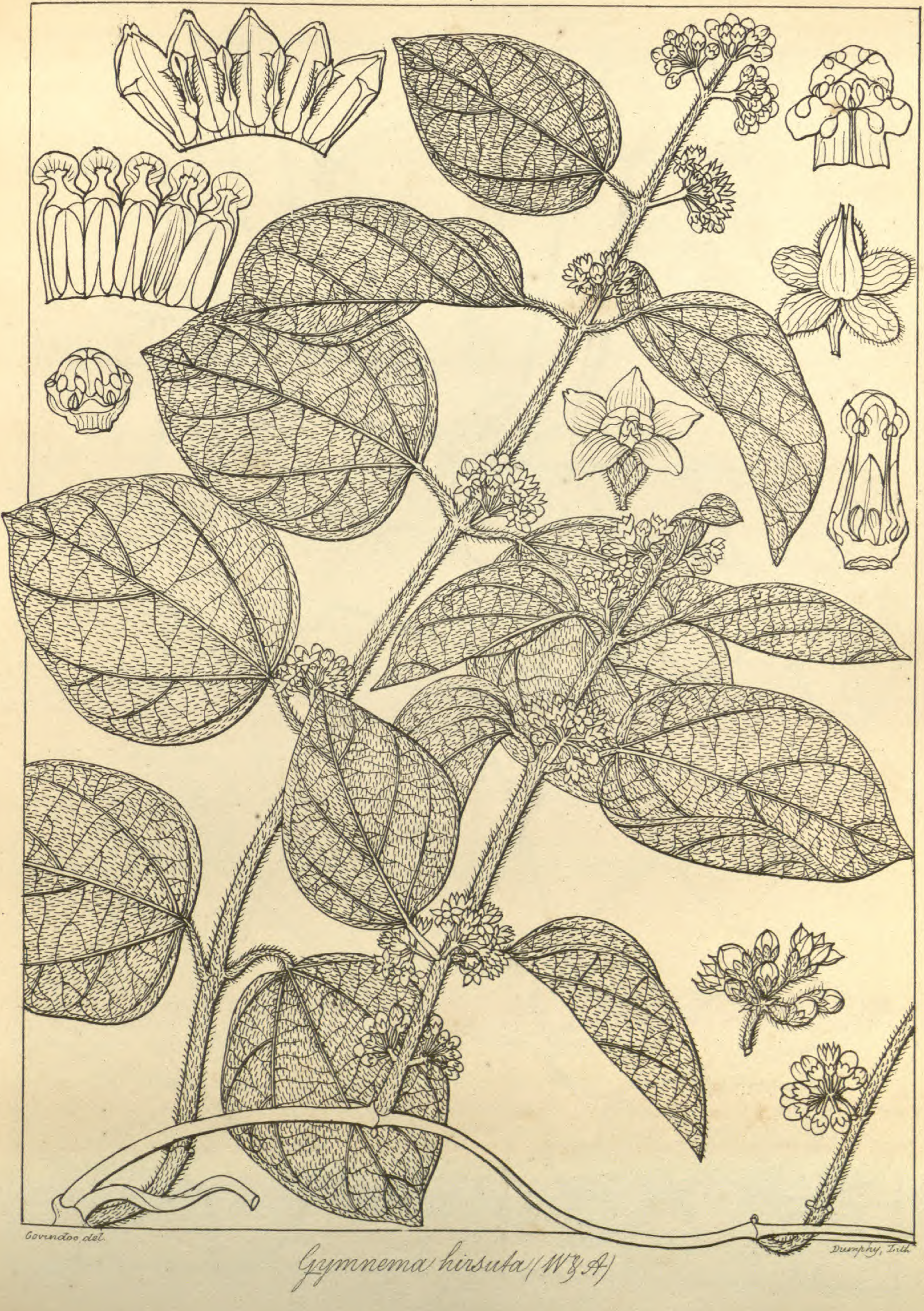
Hoya pauciflora (R.W.)

Govindoo, del. Dunphy, lith.

Cosmostigma acuminatum (R.W.)

Govindoo, del. Dumphy, Lith.

Gymnema? Decaisneanum (R.W.)



Covindoo del. Dumphy, Lith.

Gymnema hirsuta (W & A)

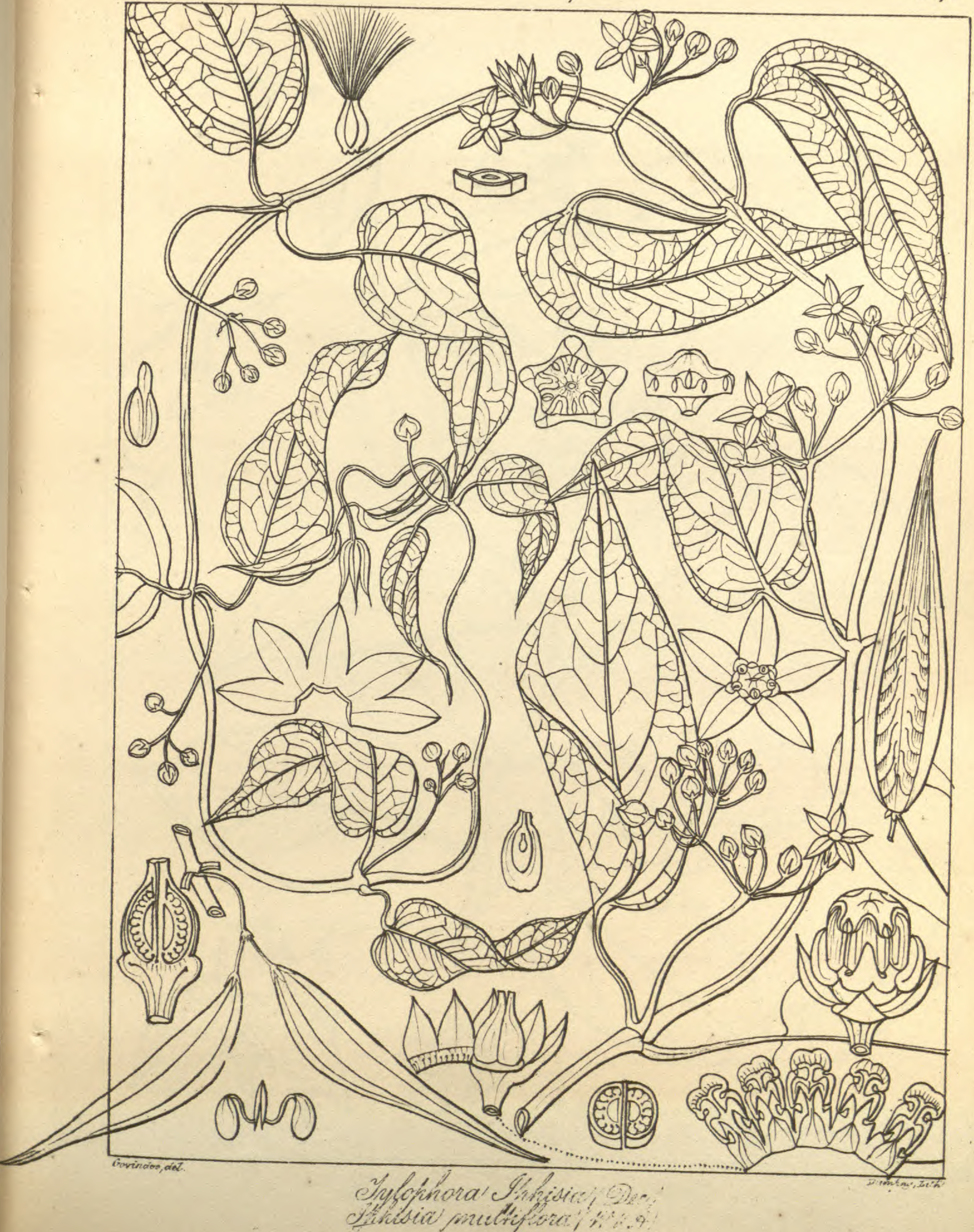
Sarcolobus globosus (Wall)

Govindoo, del. Dumphy, Lith

Zylophora pauciflora (W & A)

Govindoo, del. Dunphy, Lith.

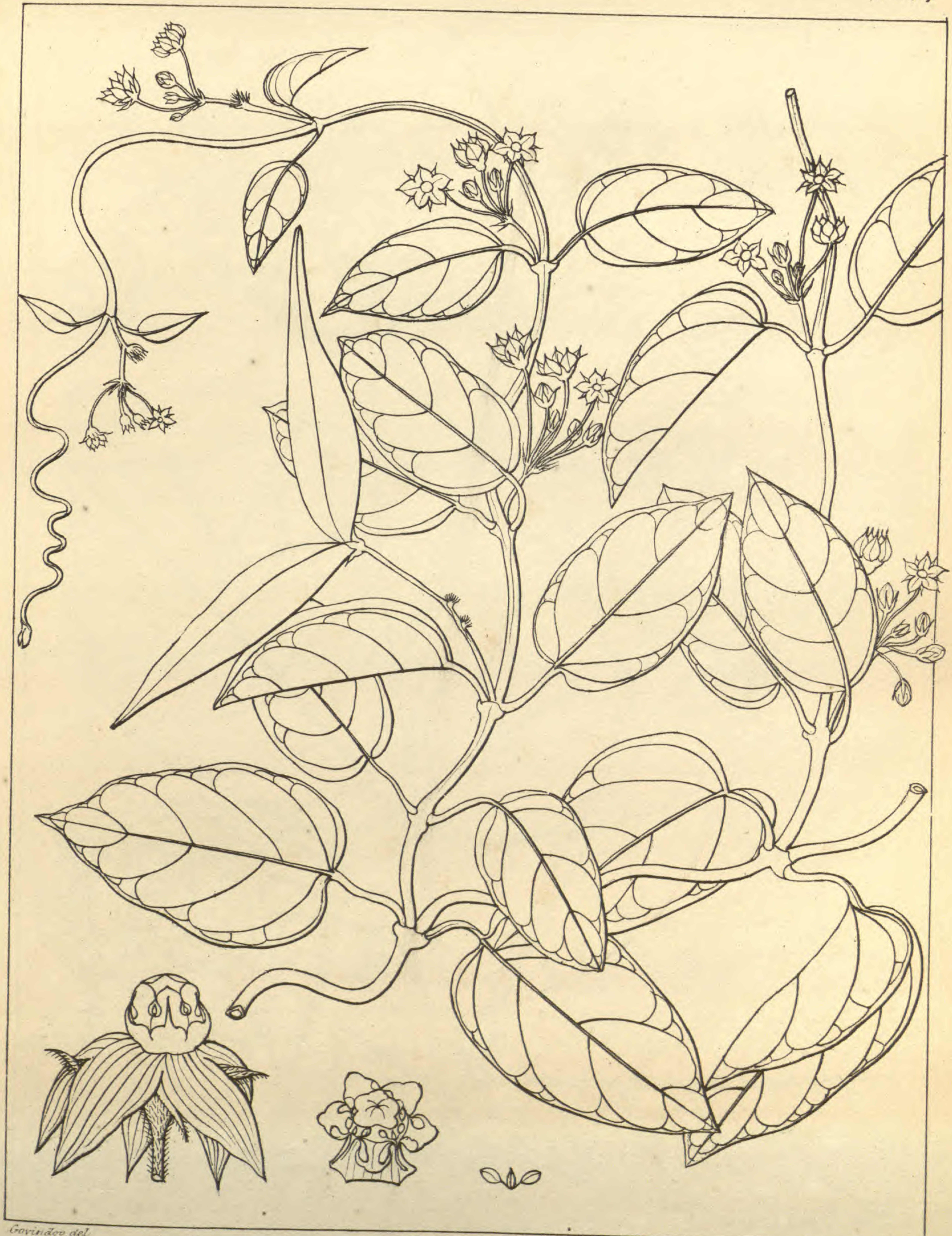
Tylophora mollissima (W. & A.)



Govindoo, del.

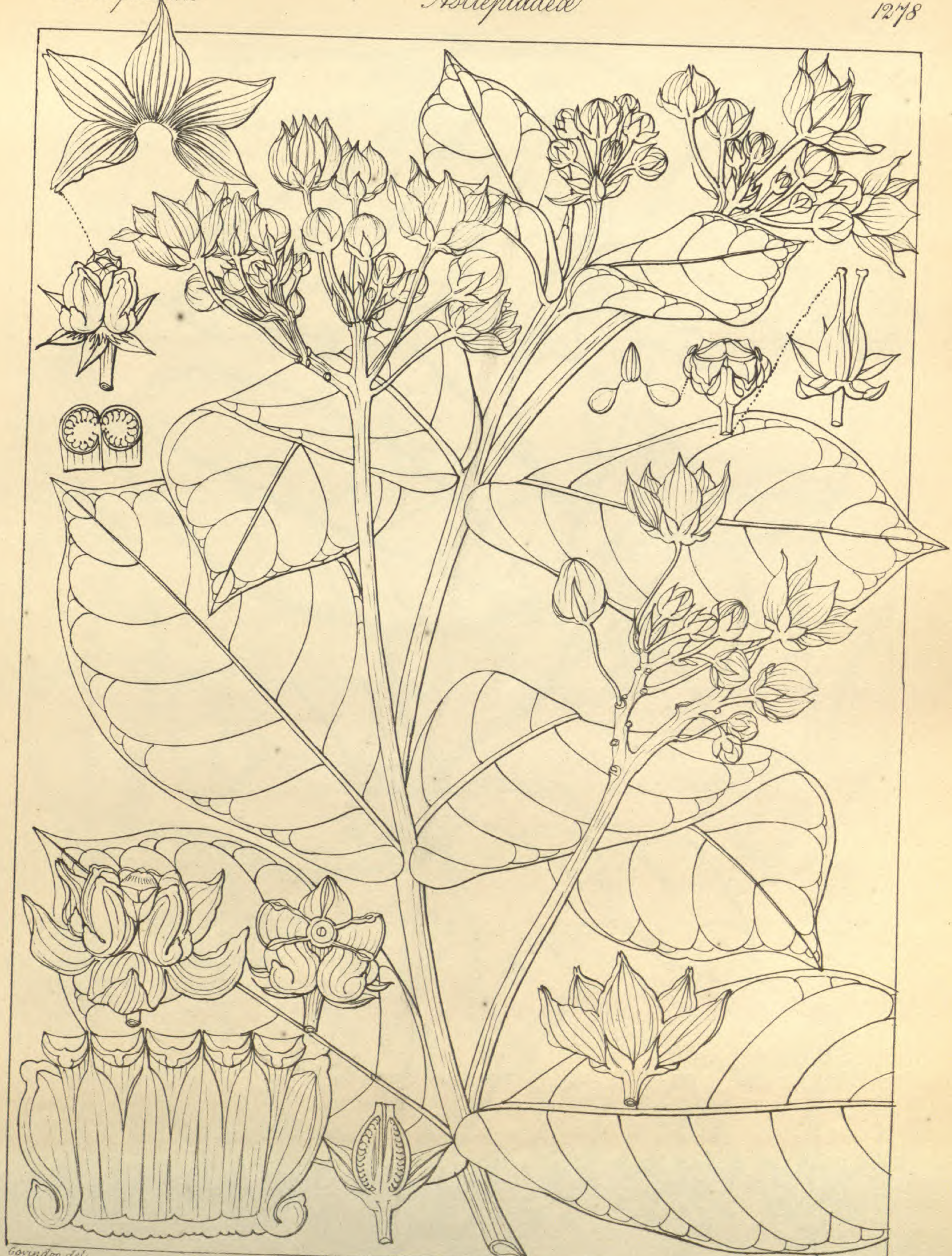
Dumphy, Lith.

Tylophora Iphisia (Dec.)
Iphisia multiflora (W. & A.)



Govindoo del. Dumphy, Lith.

Tylophora asthmatica (W & A)



Govindoo, del. Dumphy, Lith.

Calotropis procera (R.Br.)

Govindoo del. Dumphy, Lith

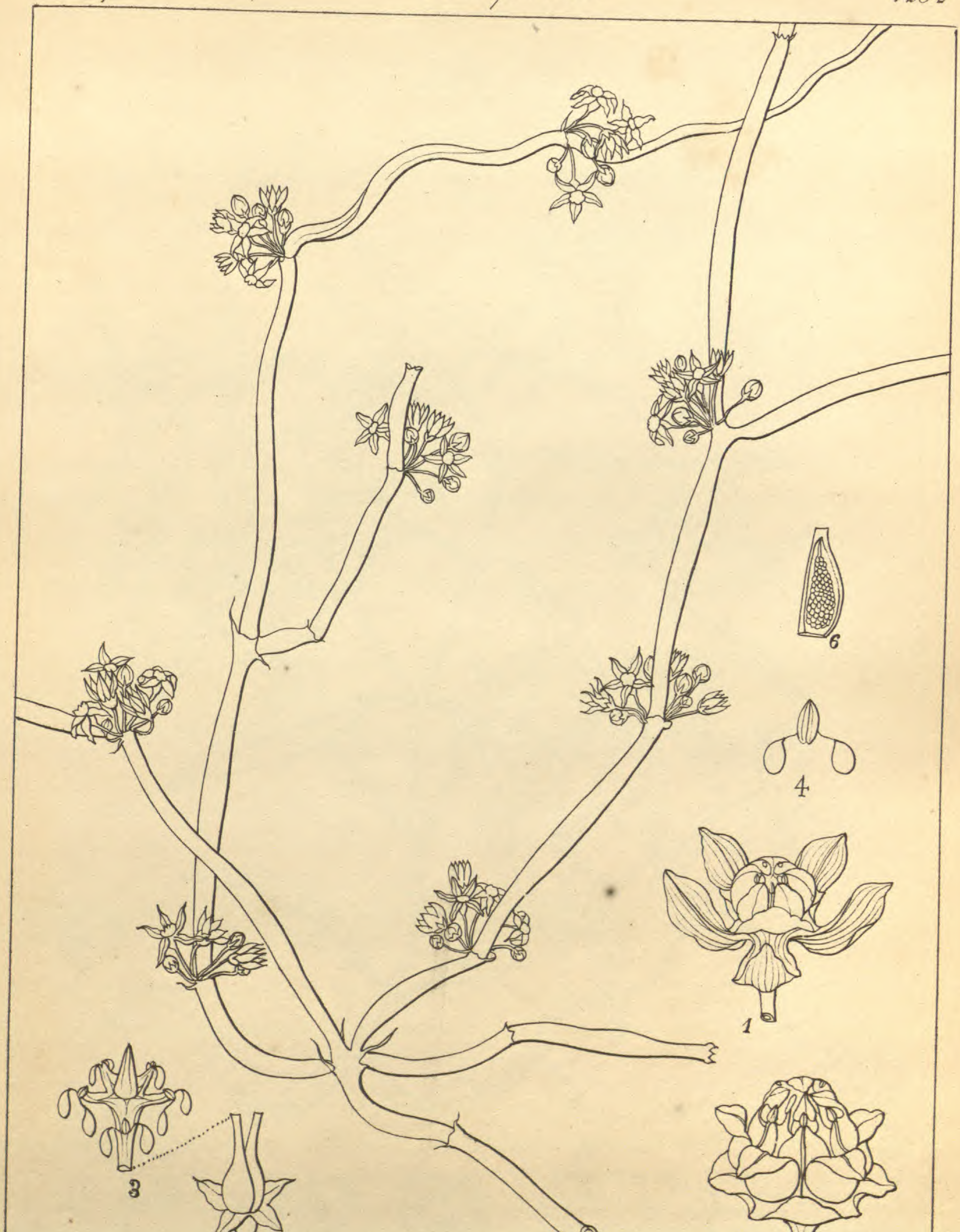
Cynoctonum callialata (Dec)
Cynanchum callialata (Ham W&C)

Govindoo del. Dumphy, Lith.

Cynoctonium alatum (Dec).
Cynanchum alatum (W & A)

Govindoo, del. Dunphy, Lith.

Sarcostemma intermidium (D.C.)



Govindoo, del. Dunphy, Lith.

Sarcostemma Brunoniana (W. & A.)

Govindoo, del. Dunphy, Lith.

Secamone emetica (R. 13.)

Govindoo, del. Dumphy, Lith

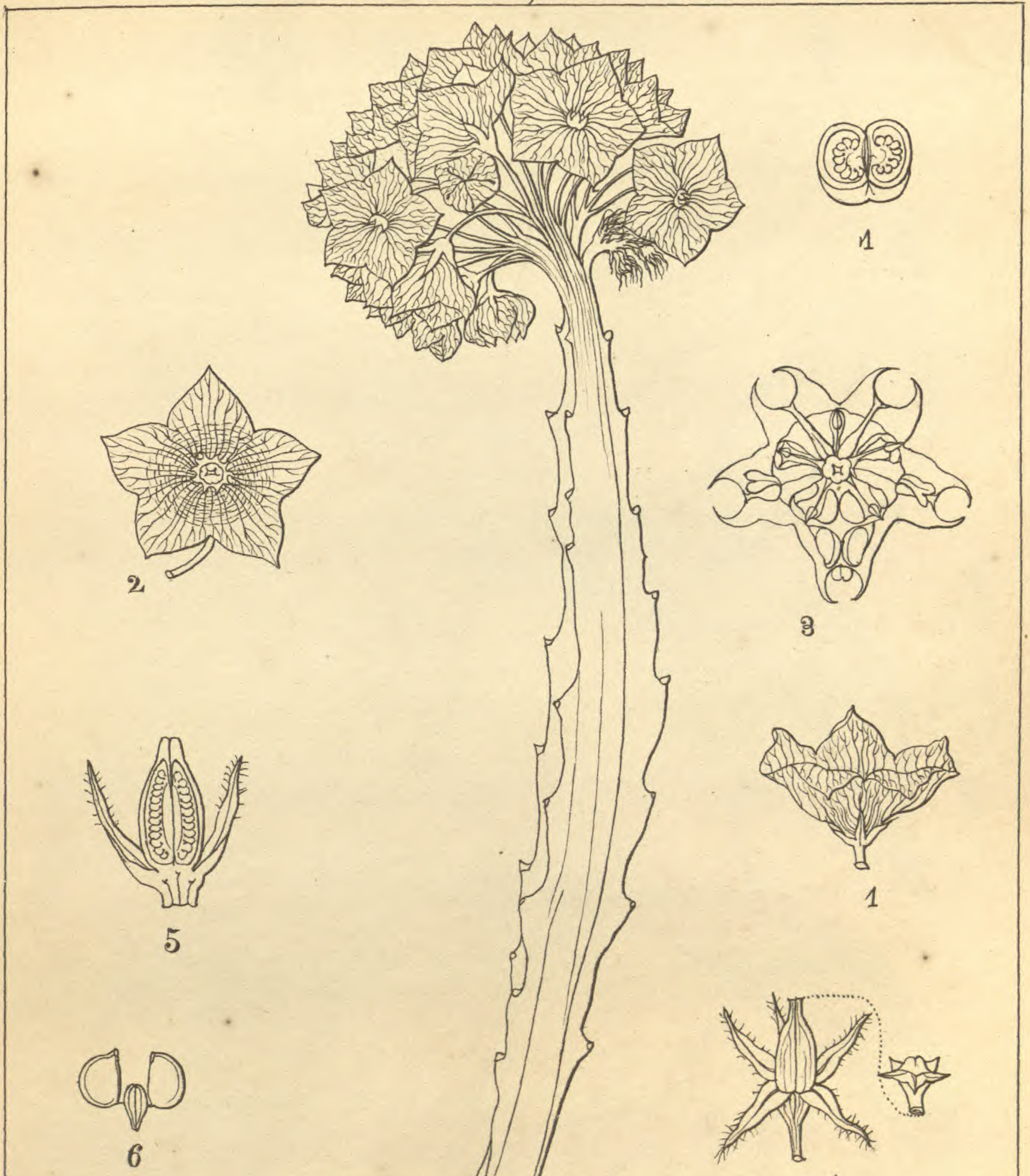
Brachylepis nervosa (W & A)

Govindoo, del. Dunphy, Lith.

Decalepis Hamiltonii (W & A)

Govindoo, del. Dunphy, Lith.

Boucerosia lasiantha (R.W.)



Govindoo, del. Dunphy, Lith.

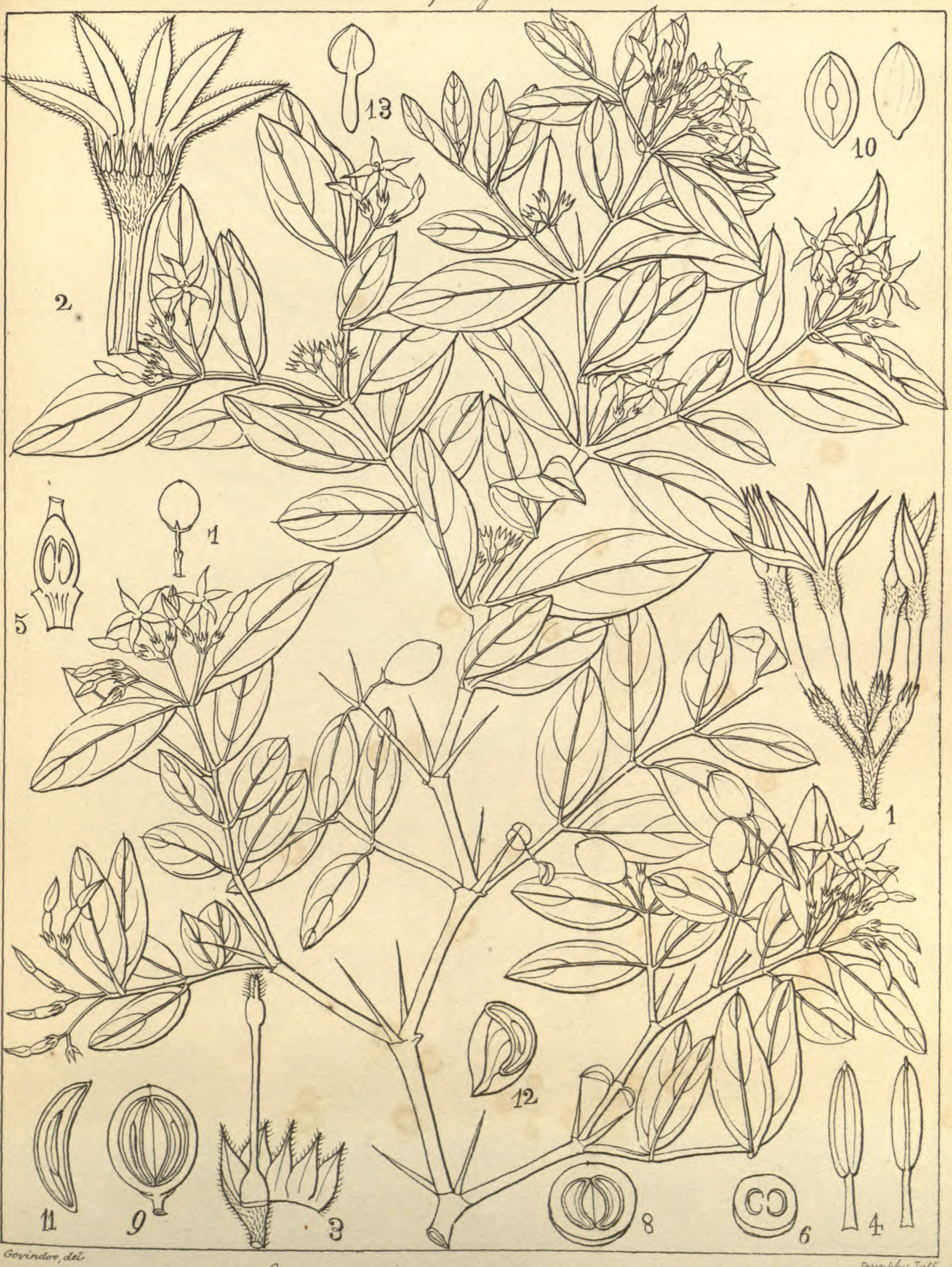
Boucerosia campanulata (R.W.)

Govindoo, del. Dunphy, Lith.

Chilocarpus ceylanicus (R.W.)

Govindoo, del. Dunphy, lith.

Carissa congesta (R.W.)



Govindoo, del. Dunphy, Lith.

Carissa paucinervia (A.C. D.C.)

Govindoo, del. Dumphy, Lith.

Ophioxylon Ceylanicum (R.W.)

Govindoo, del. Dunphy, Lith.

Ophioxylon Neilgherrense

Govindoo, del. Dumphy, Lith.

Alexia Ceylanica (R.W)

Govindoo, del. Dumphy, Lith.

Hunteria Roxburghiana (R.W)

Govindoo, del. Dumphy, Lith.

Ellertonia Rheedii (R.W.)

Govindoo, del. Dumphy, Lith.

Wrightia Wallichii (A. C. D. C.)

Govindoo, del. Dumphy, Lith.

Holarrhena codaga (G. Don)

Govindoo, del. Dumphy, Lith.

Holarrhena Malaccensis (R.W.)

Govindoo, del. Dunphy, Lith.

Strophanthus longicaudatus (RW.)

Strophanthus Griffithii

Govindoo, del Dumphy, Lith.

Strophanthus Wightianus (Wall)

Govindoo, del. Dunphy, Lith.

Strophanthus brevicaudatus (R.W.)

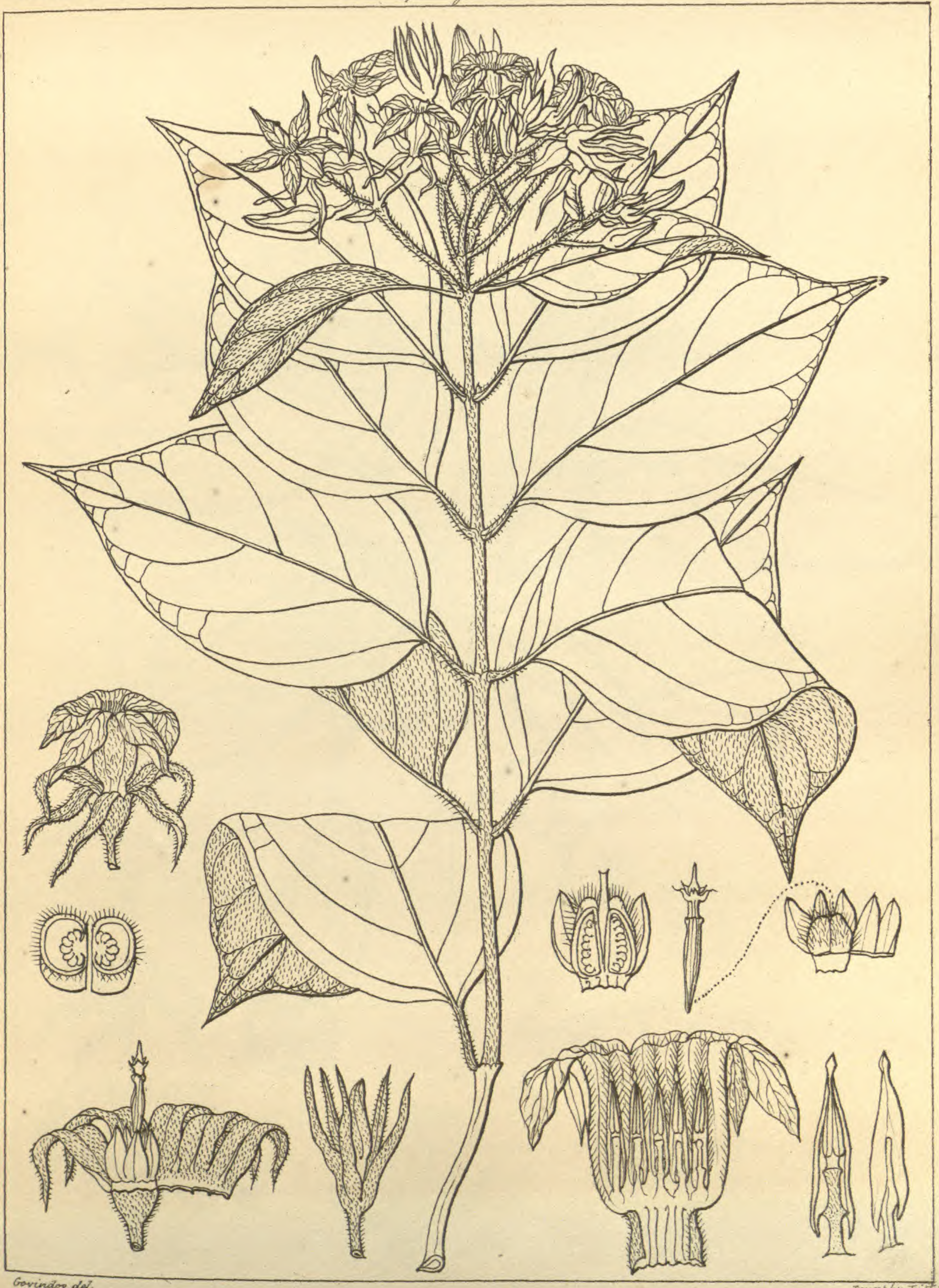
Govindoo, del. Dumphy, Lith.

Heligme Rheedii (R.W.)

Govindoo, del.

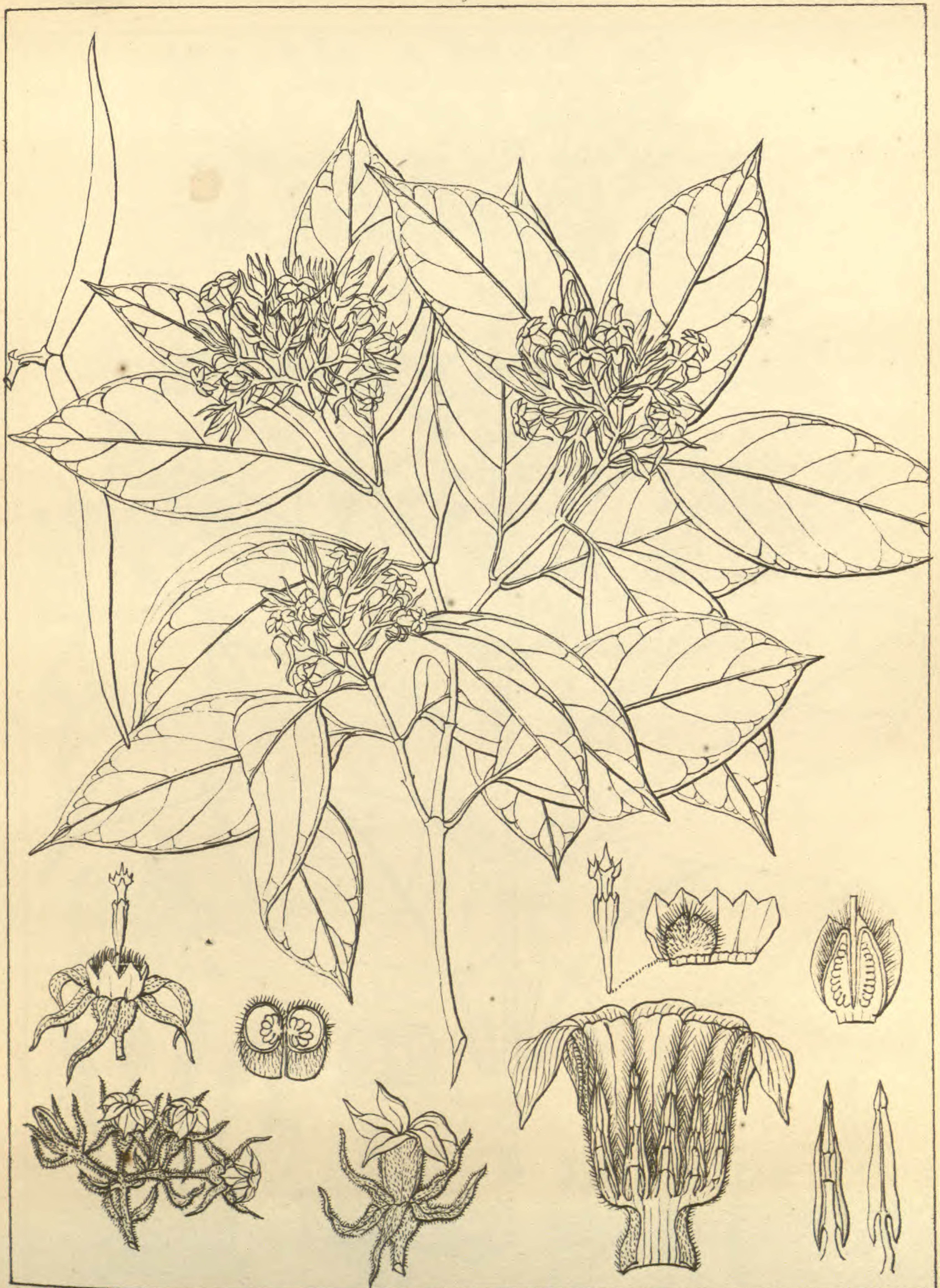
Dumphy, Lith.

Aganosma elegans (G. Don)



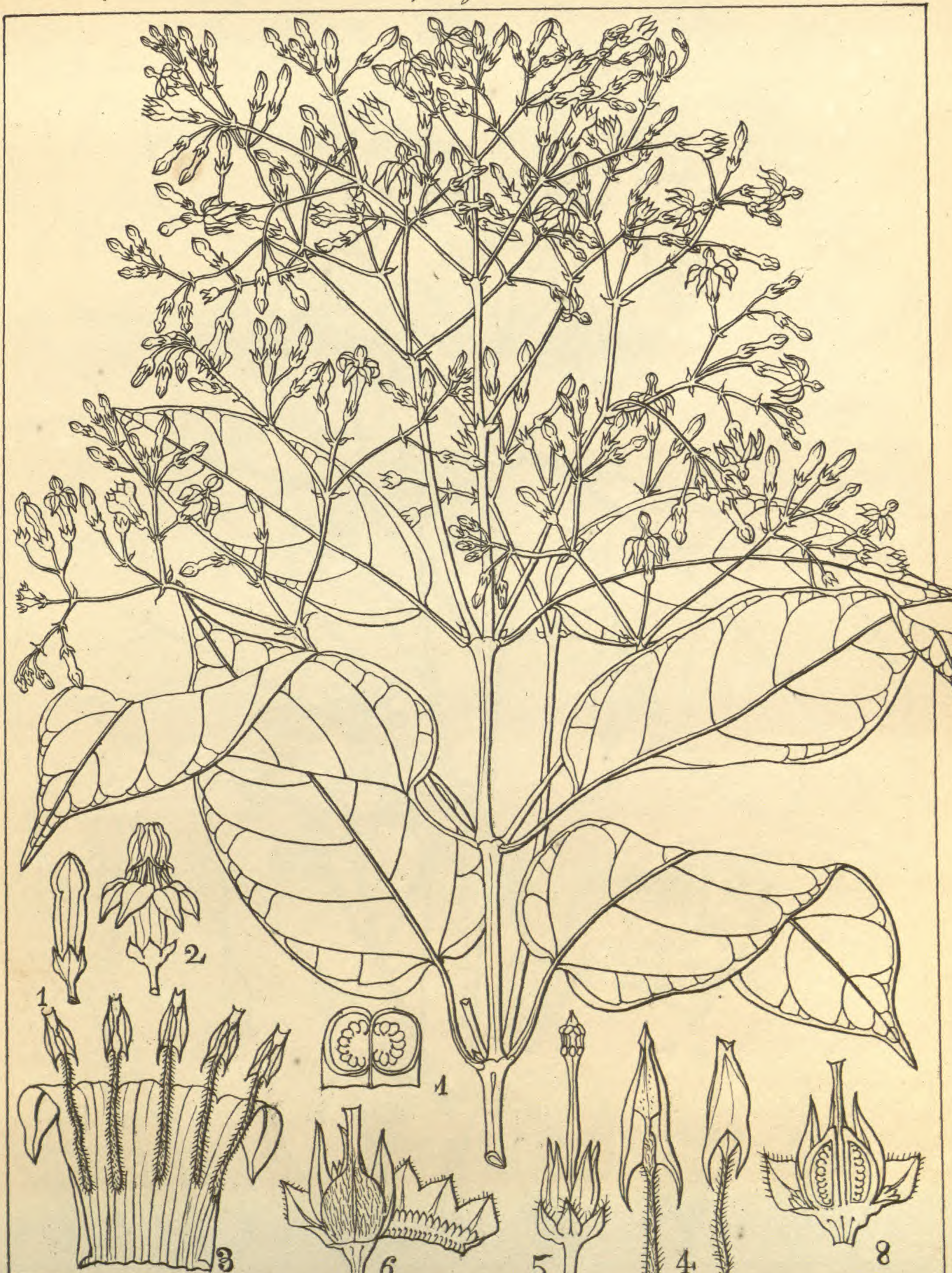
Govindoo, del. Dumphy, Lith.

Aganosma Blumii (Al. D.C.)



Govindoo, del. Dumphy, Lith.

Aganosma Doniana (R.W.)



Govindoo, del. Dumphy, Lith.

Pottsia Hookeriana (R.W.)

Govindoo, del. Dumphy, Lith.

Ecdysanthera glandulifera (al D.C.)

Govindoo, del. Dunphy, Lith.

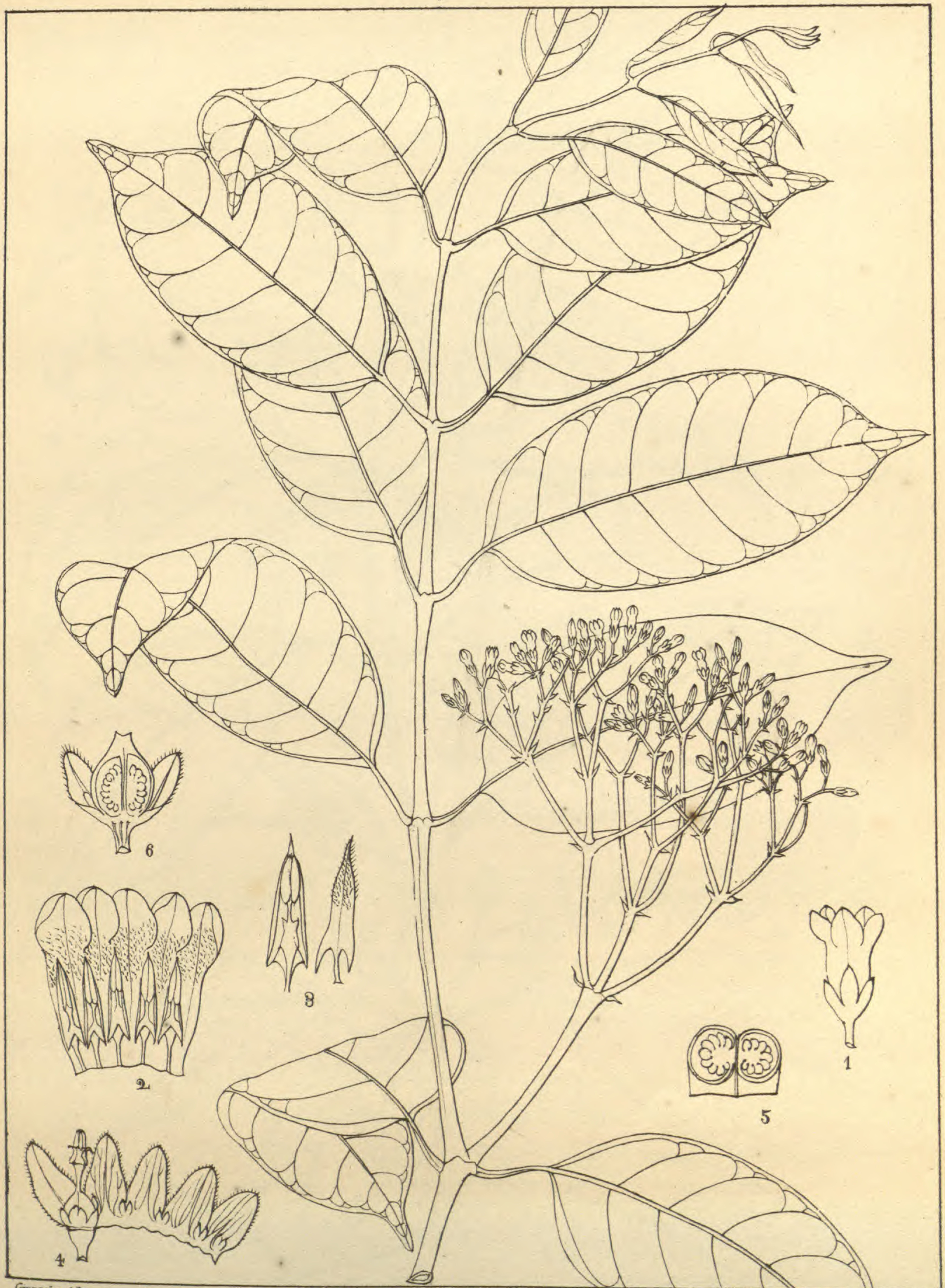
Epigynum Griffithianum (R. W.)

Govindoo del. Dumphy, Lith

Anodendron candollianum (R.W.)

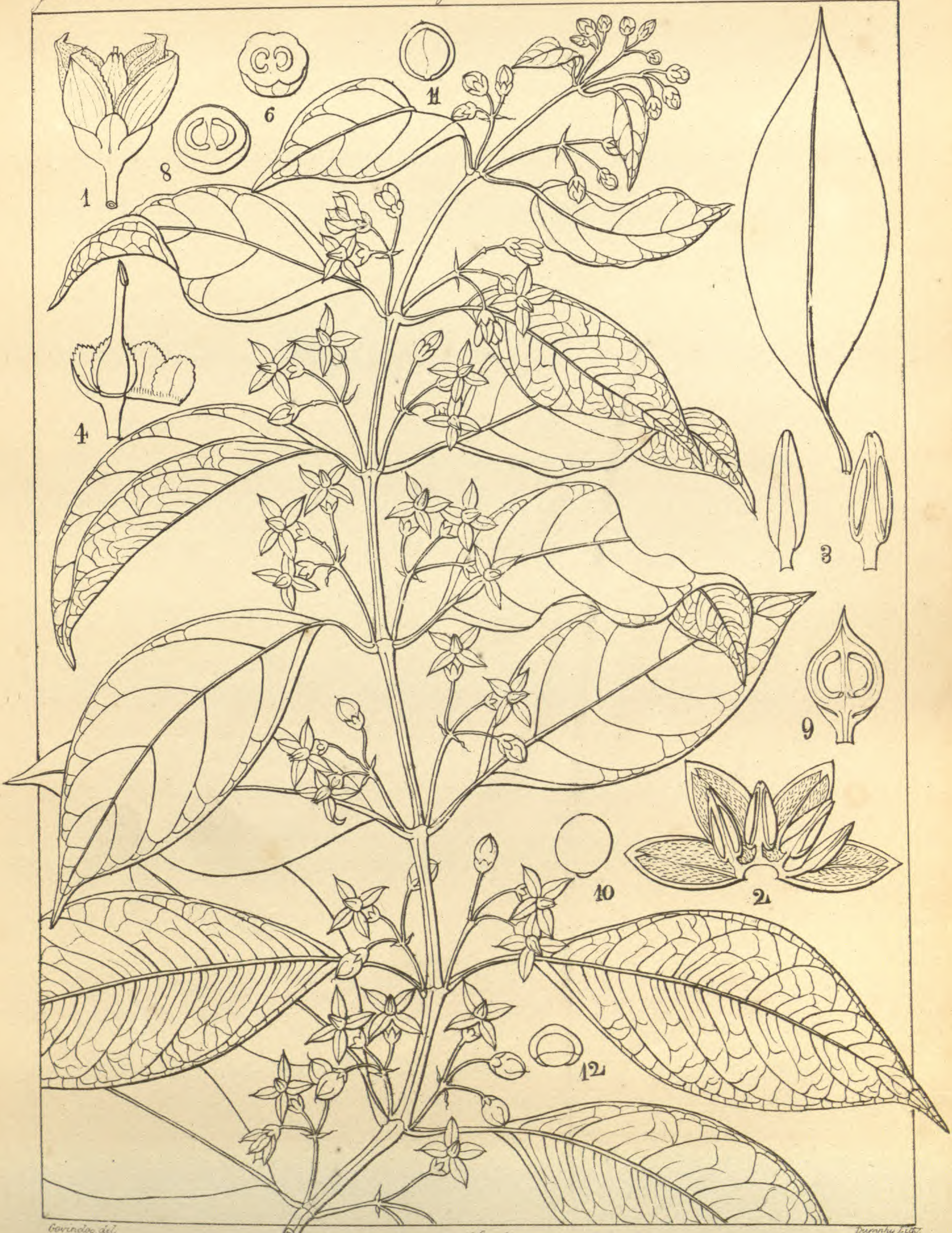
Govindoo, del. Dumphy, Lith.

Cleghornia acuminata (R.W)



Govindoo, del. Dumphy, Lith.

Cleghornia cymosa (R. W.)



Govindoo, del. Dumphy Lith.

Gardnera Wallichii (R.W.)

Govindoo, del. Dumphy, Lith.

Beaumontia Jerdoniana (R.W.)

Govindoo, del.

Dumphy

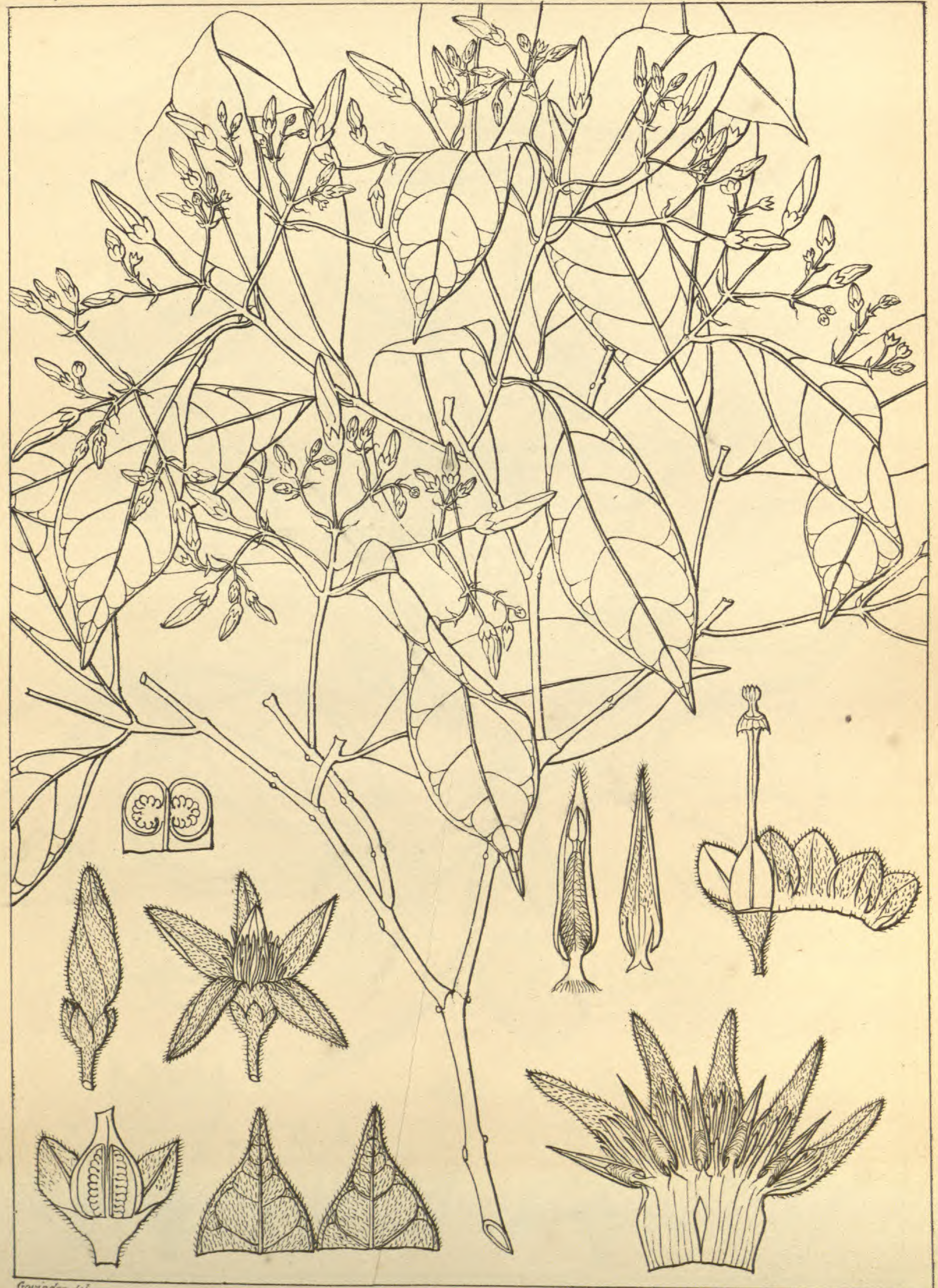
Fagræa coromandelina (R.W.)

Govindoo, del. Dumphy, Lith.

Fagræa malabarica (R. W.)

Govindoo, del. Dumphy, Lith.

Gærtnera kœnigii (R. W.)



Govindoo, del.   Dumphy, Lith.

Wrightia Rothii (G. Don)

Hemidesmus pubescens (W & A)

Govindoo, del. Dumphy, Lith.

Exacum bicolor (Roxb)

Govindoo, del. Dumphy Lith.

Exacum Perrottetii (Grisel)

Govindoo, del. Dumphy, Lith.

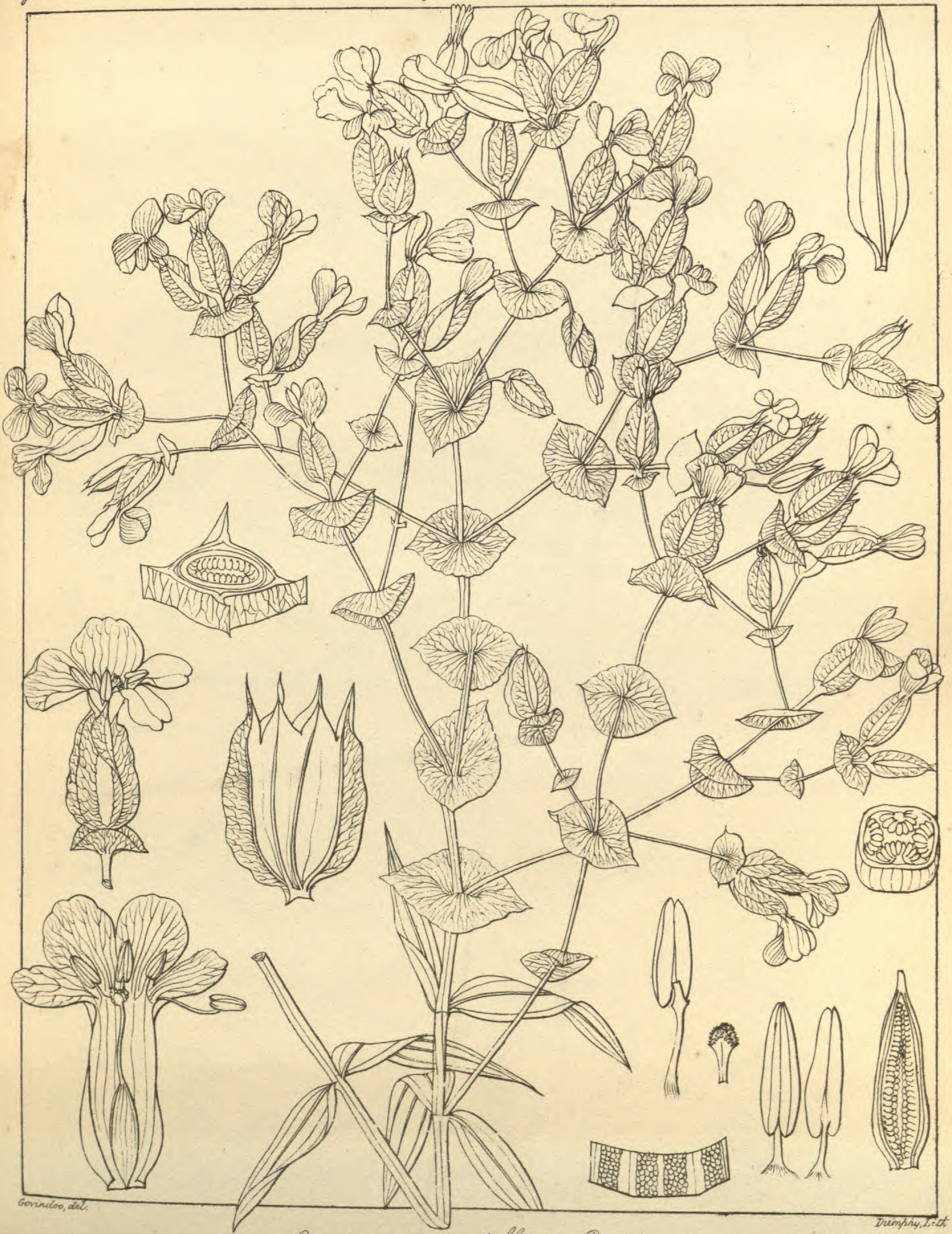
Exacum courtallense (Arn)

Govindoo, del. Dumphy, Lith.

Exacum sessile (Lin) Ex. petiolare (Grisel) Ex. pumilum (Gris)

Govindoo, del. Dunphy, Lith.

Erythræa Roxburghii (G. Don)



Govindoo, del. Dumphy, Lith

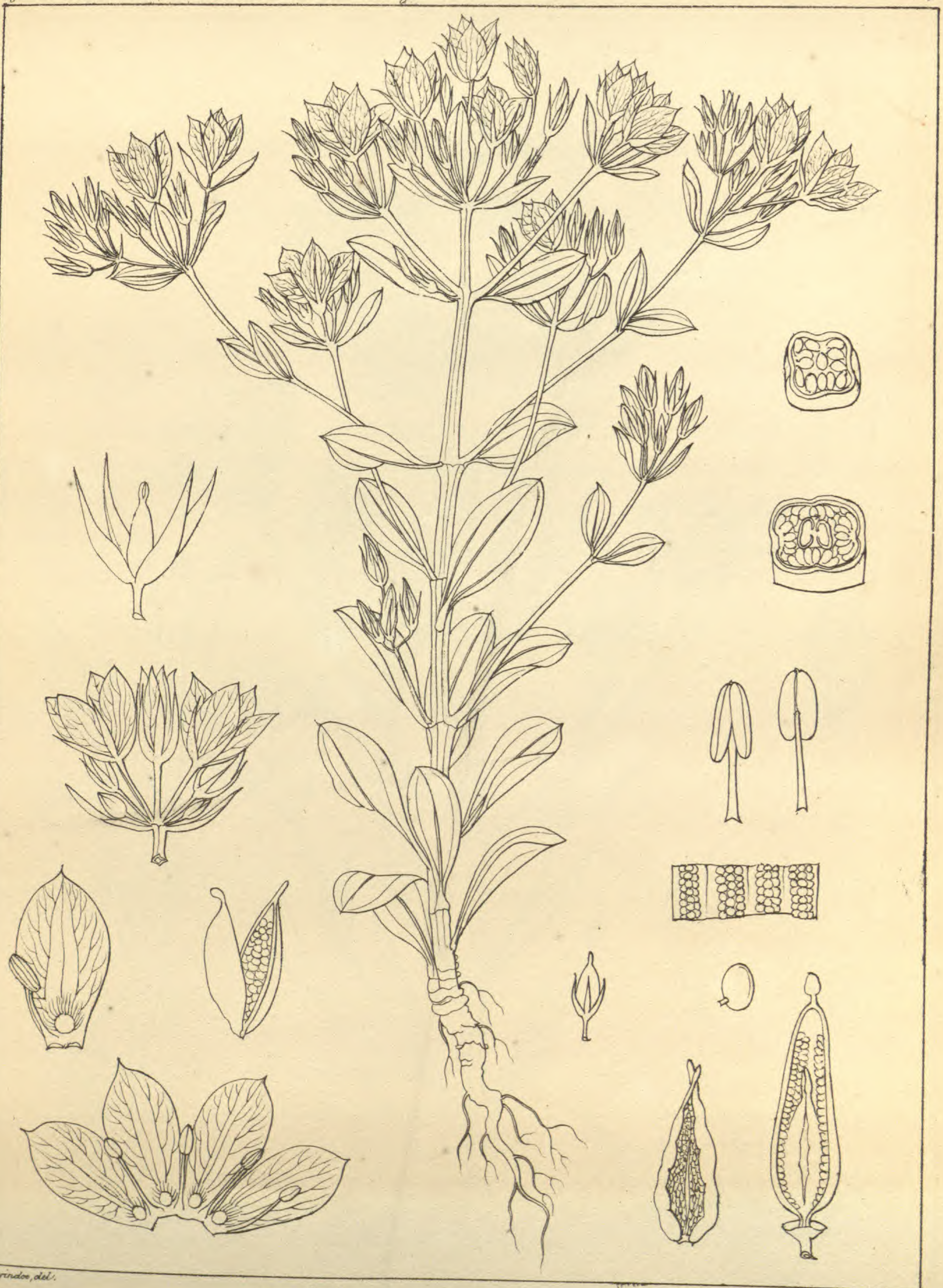
Canscora grandiflora (R. W.)

Govindoo, del. Dumphy, Lith.

Canscora Lawii (R.W.) C. perfoliata (Linn) C. tenella (R.W.)

Gevindoo, del. Dumphy, Lith.

Gentiana pedicellata (Wall)



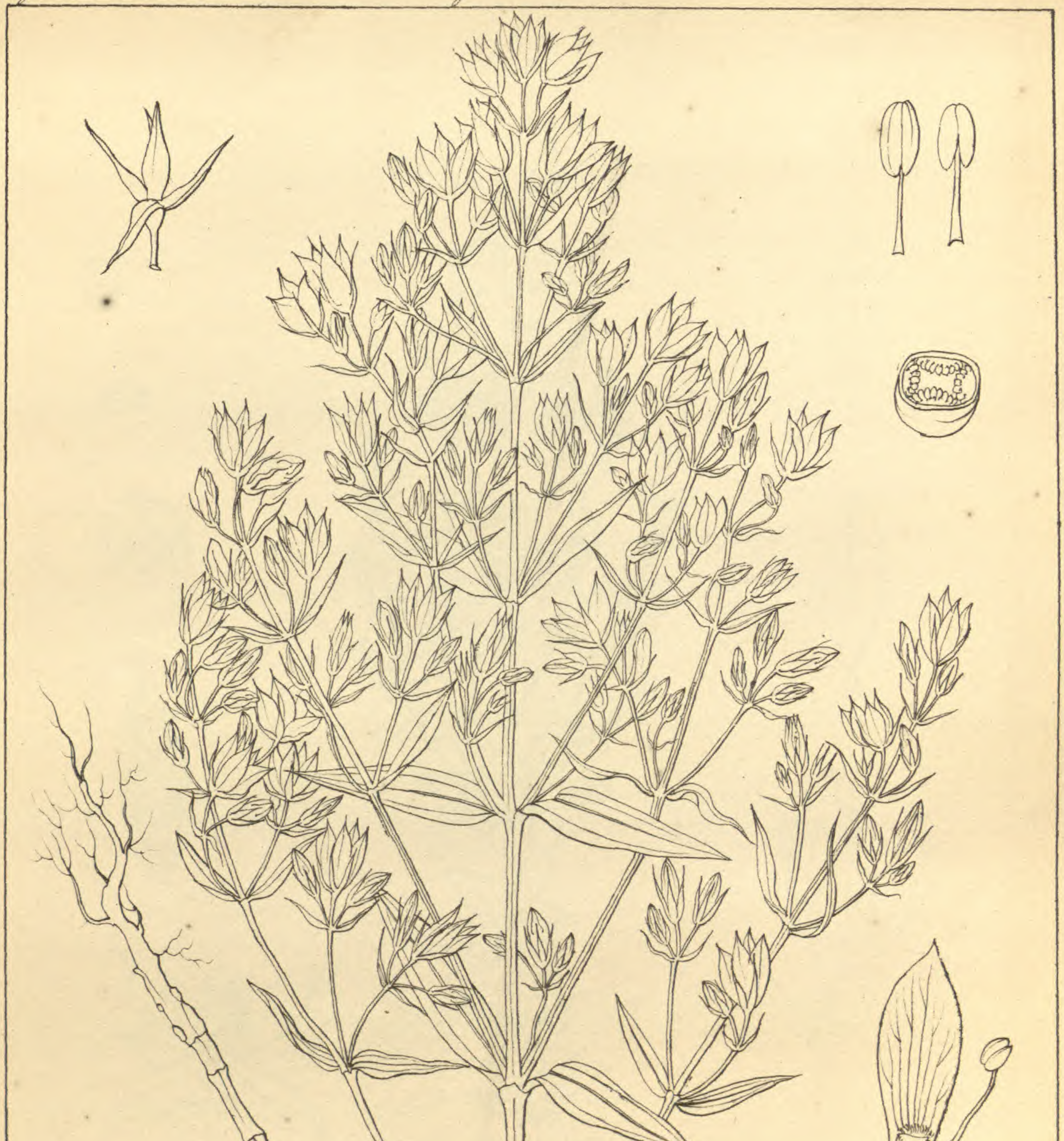
Govindoo, del.

Dumphy Lith.

Ophilia corymbosa (Grisel)

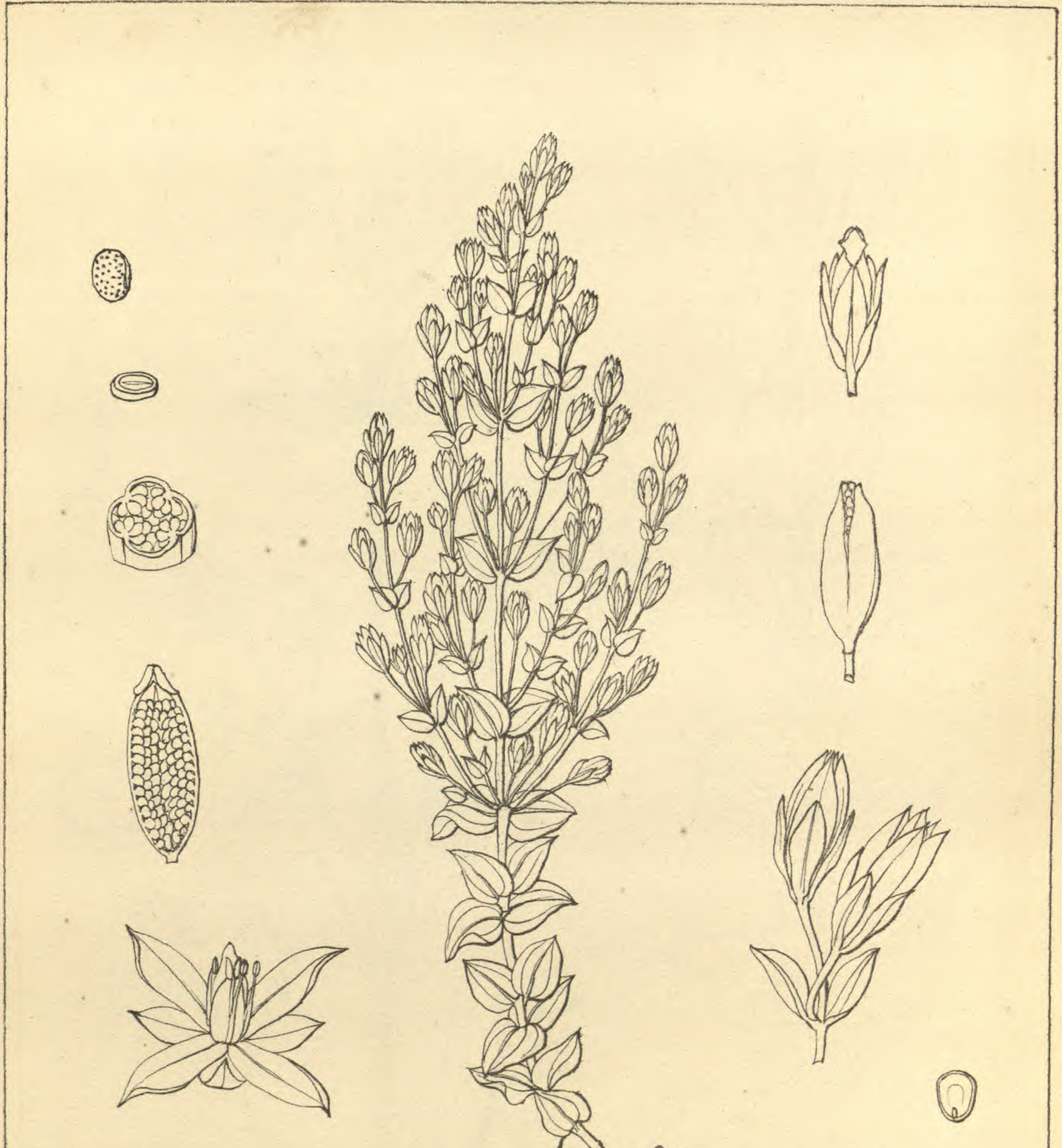
Govindoo, del. Dumphy, Lith.

Ophelia Grisebachiana (R.W.)



Govindoo del. Dunphy, Lith.

Ophelia elegans (R.W.)



Govindoo, del. Dumphy, Lith.

Ophelia menor (Griseb)

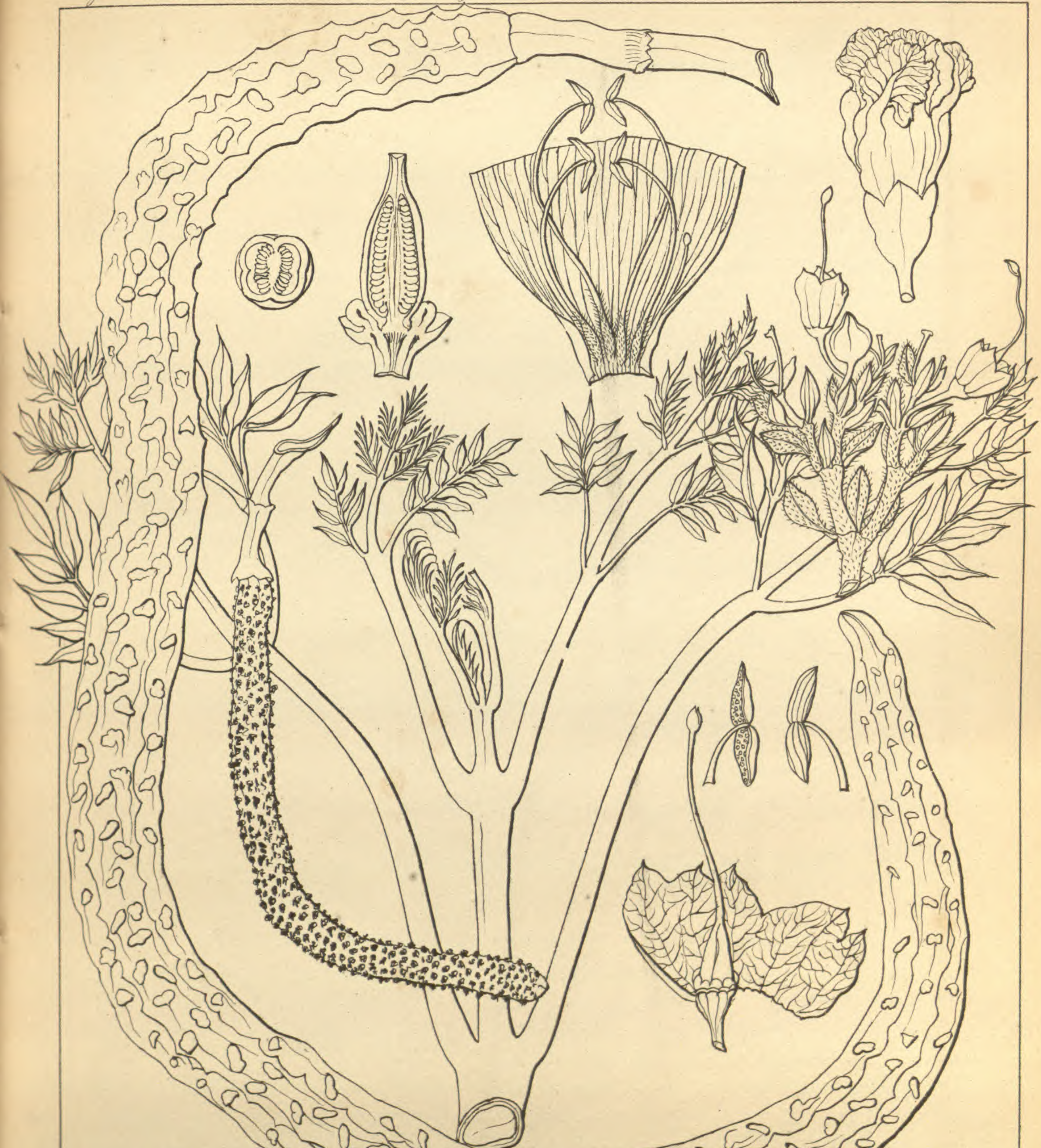
Govindoo, del. Dumphy, Lith.

Halenia Perrottetia (Griseb)

Govindoo, del.

Bignonia Xylocarpa (Roxb)

Dumphy, Lith^r



Govindoo, del. Dunphy, Lith.

Bignonia Xylocarpa (Roxb)

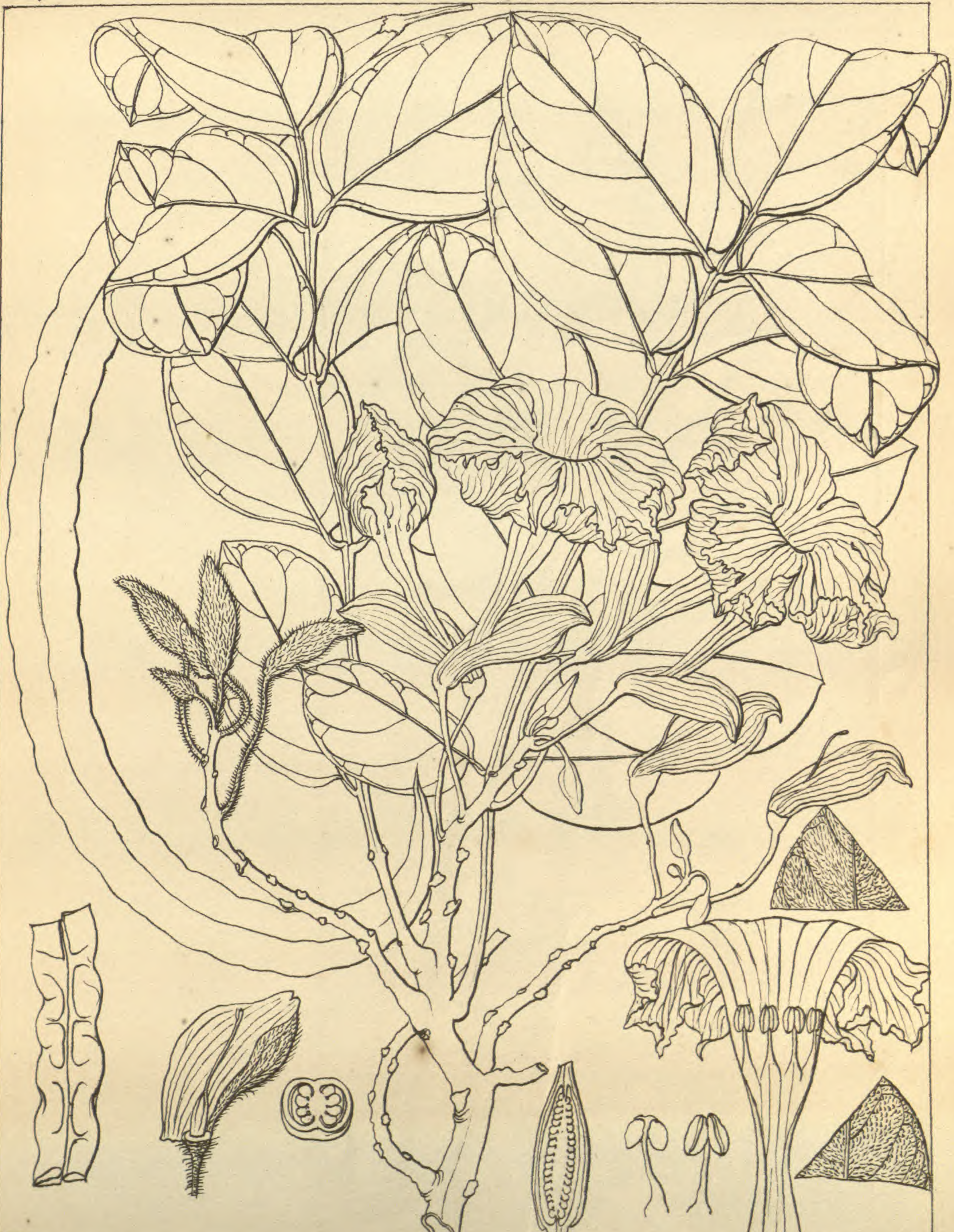
Govindoo, del. Dumphy, Lith.

Calosanthes Indica (Blume)

Govindoo, del.

Dunphy, Lith.

Spathadia Rheedii (Wall)



Govindoo, del. Dumphy, Lith.

Spathodia arcuata (R.W.)

Govindoo, del. Dumphy, Lith.

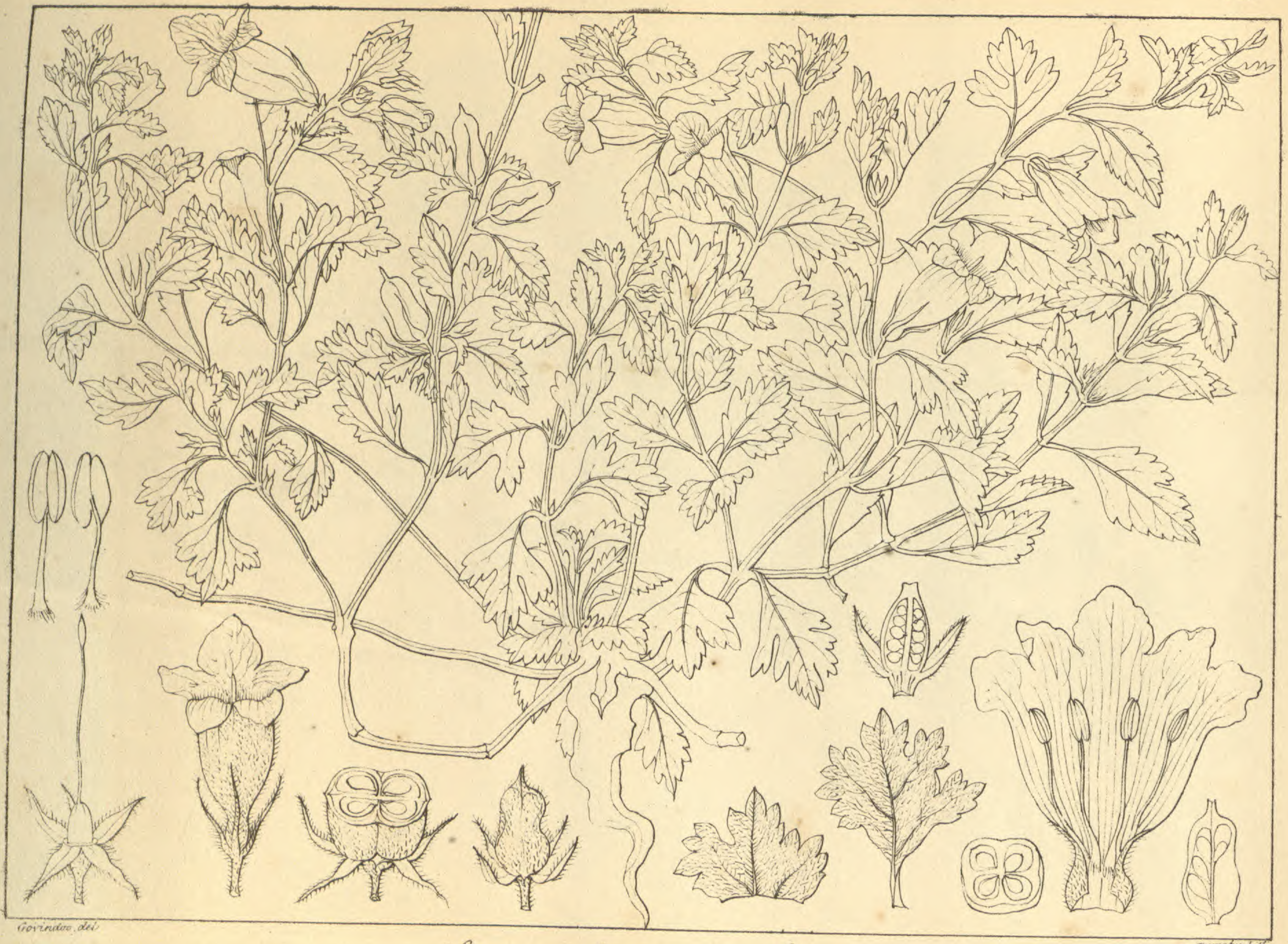
Stereospermum chelonoides (D.C.)

Govindoo, del. Dumphy, Lith.

Stereospermum suaveolens (D.C.)

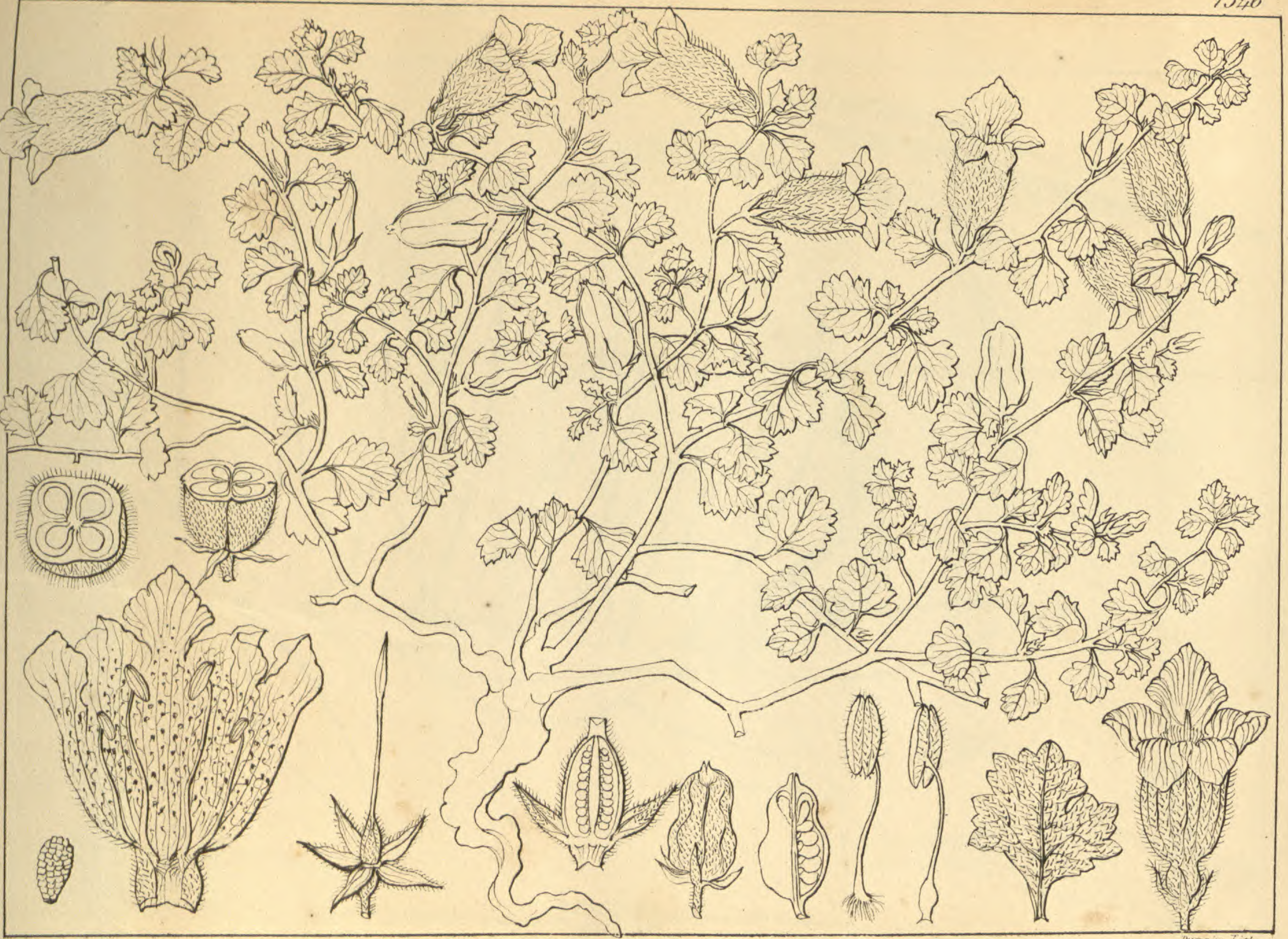
Govindoo, del. Dumphy, Lith.

Panjanelia Rheedii (R.W.)



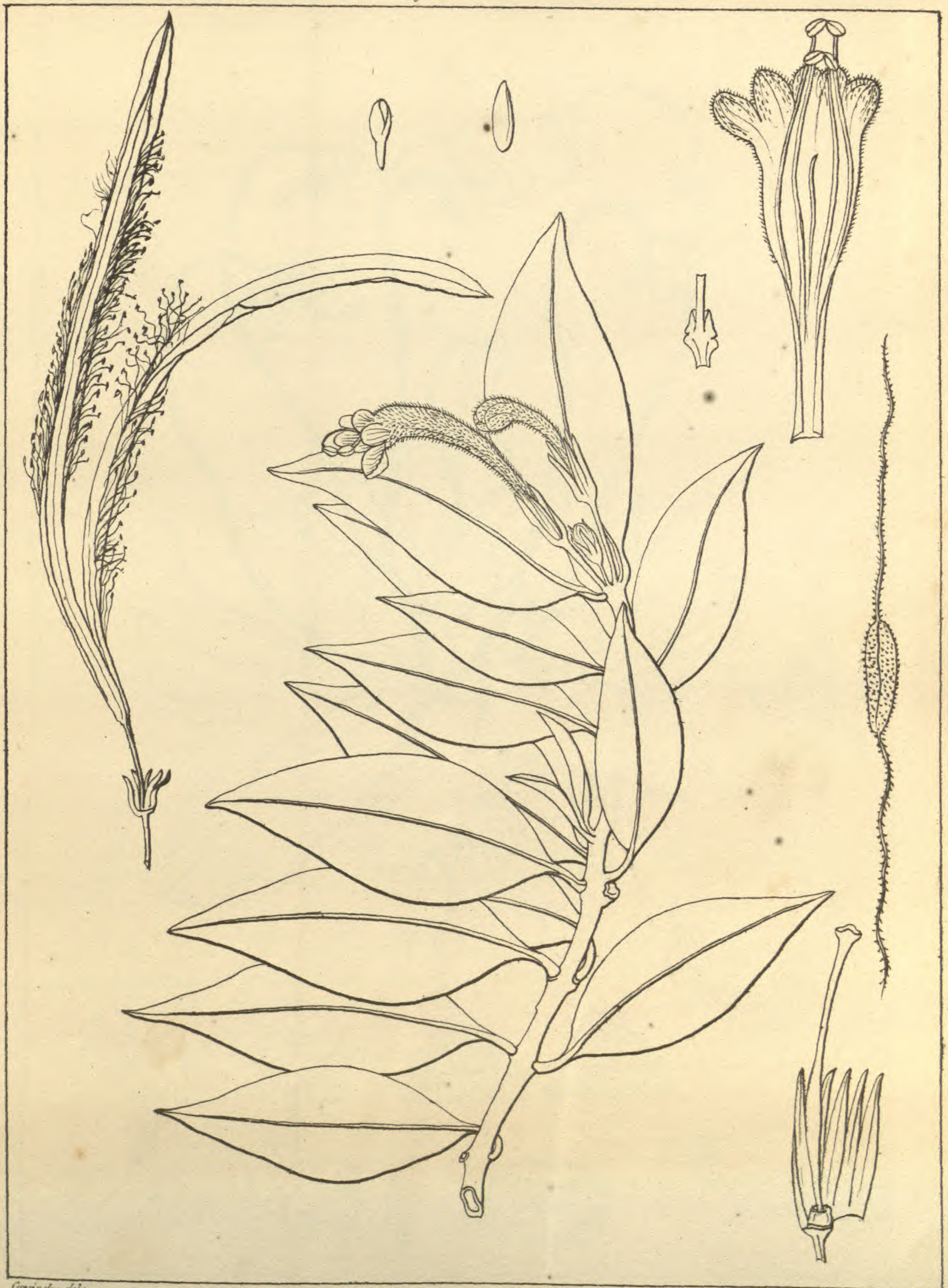
Govindoo del. Dumphy, Lith.

Sesamum laciniatum (Klein)



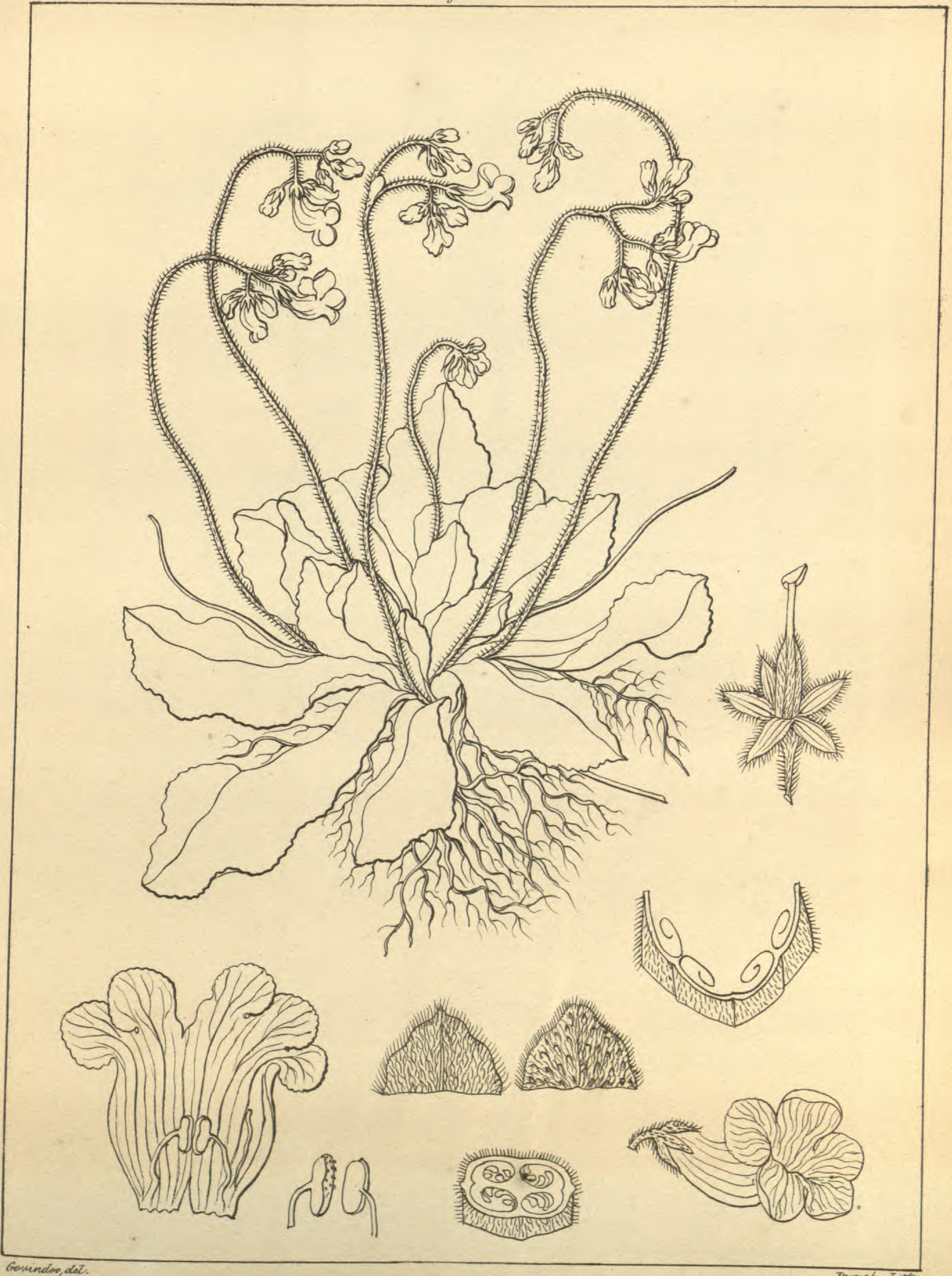
Govindoo, del.
Dumphy, Lith

Sesamum prostratum (Retz)



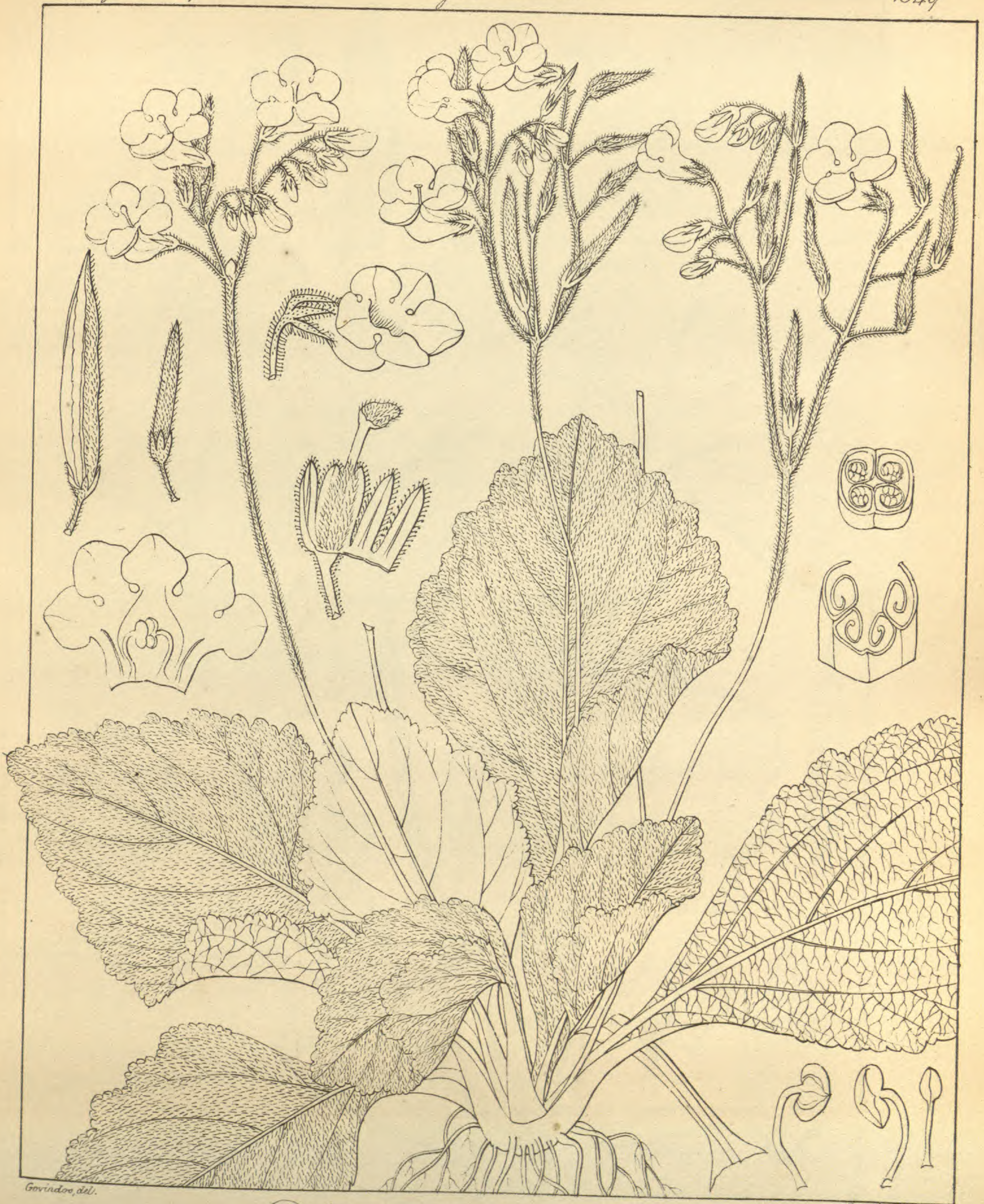
Govindoo, del. Dumphy, Lith.

Æschynanthus Ceylanica (Gardner)



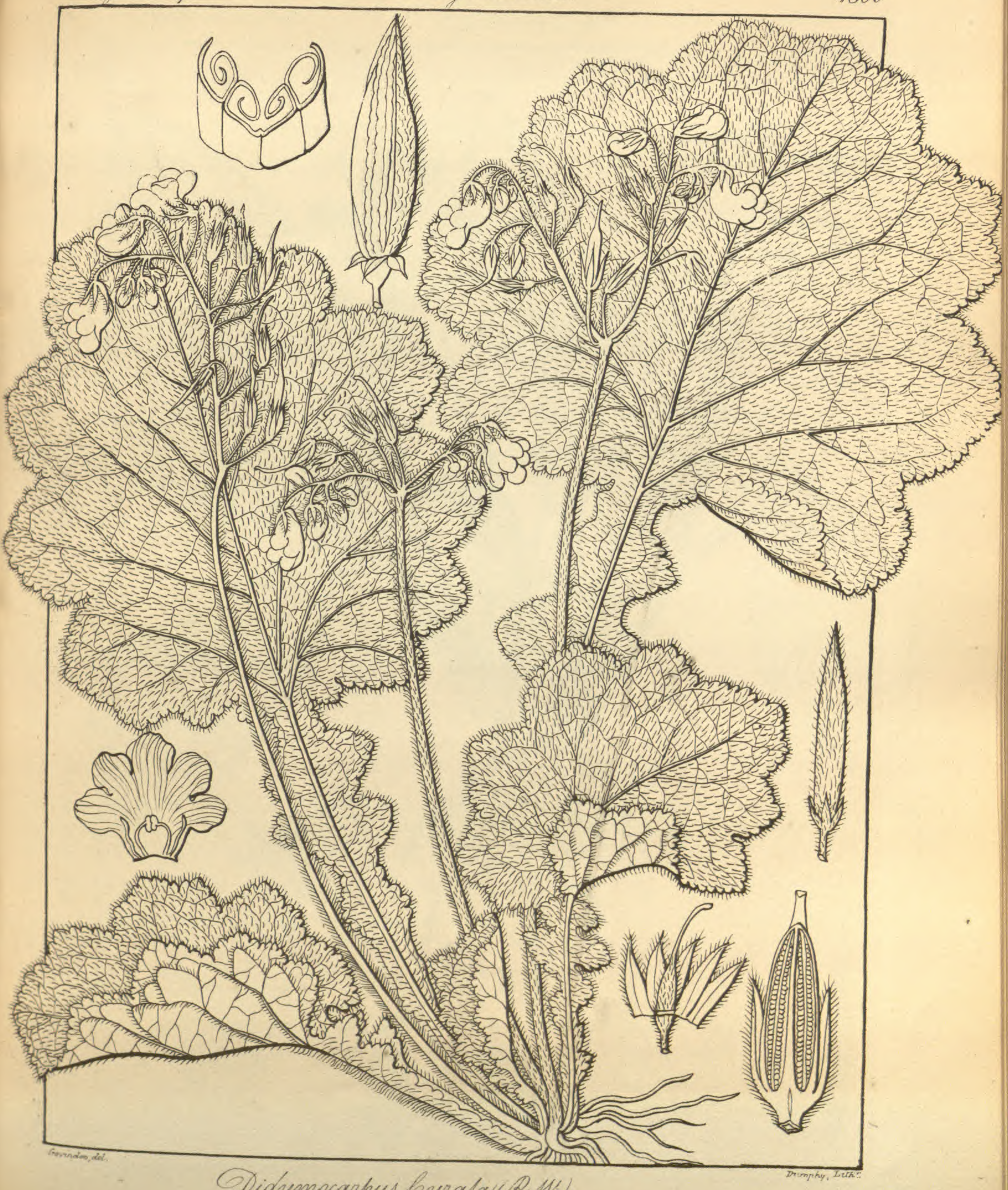
Govindoo, del. Dumphy, Lith.

Dedymocarpus Rottleriana (Wall.)



Govindoo, del. Dunphy, Lith.

Didymocarpus tomentosa (R. W.)

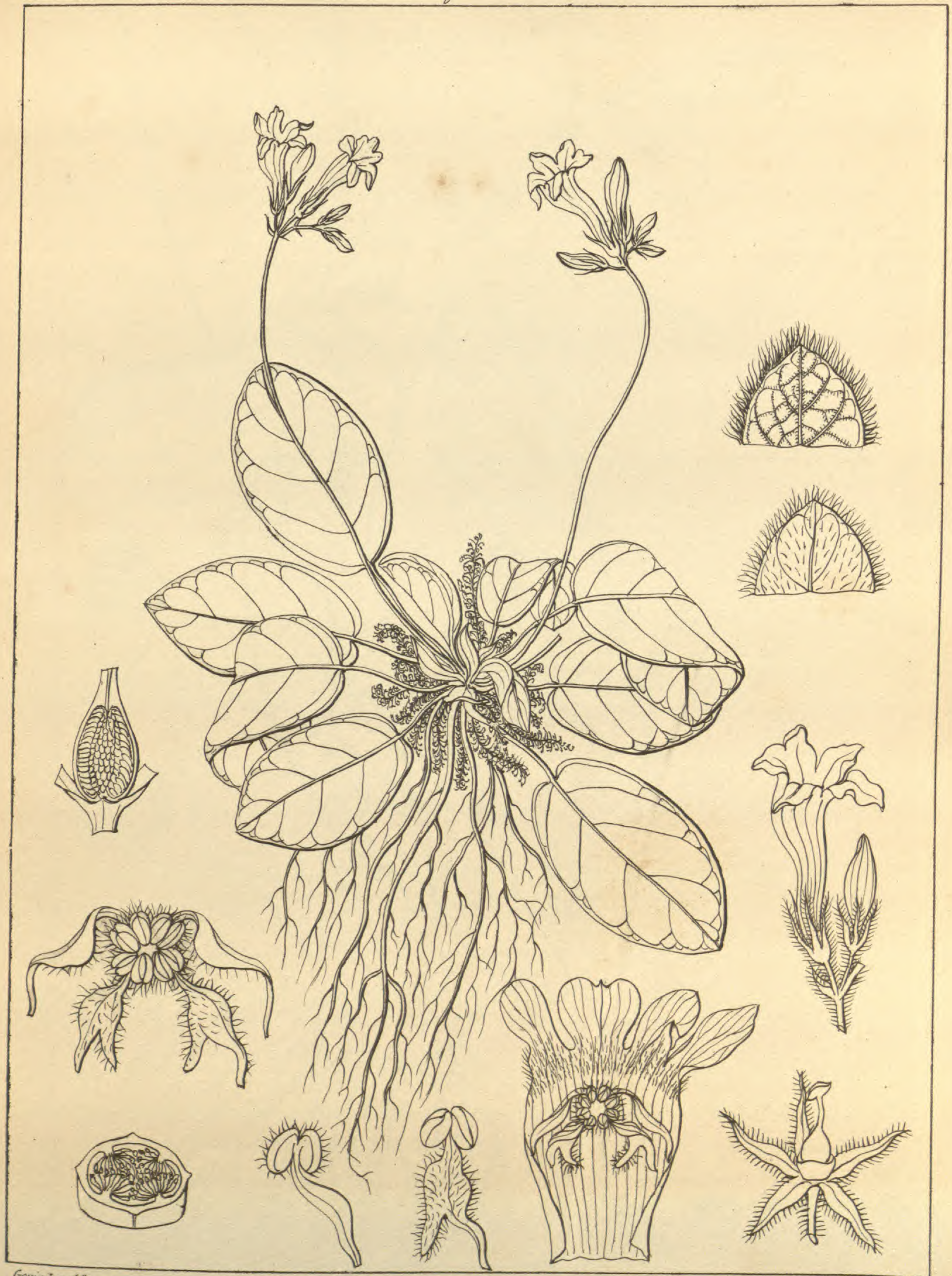


Gonndoo, del. Dumphy, Lith.

Didymocarpus Lyrata (R.W.)

Govindoo, del. Dunphy, Lith.

Dedymocarpus ovalifolia (R.W.)

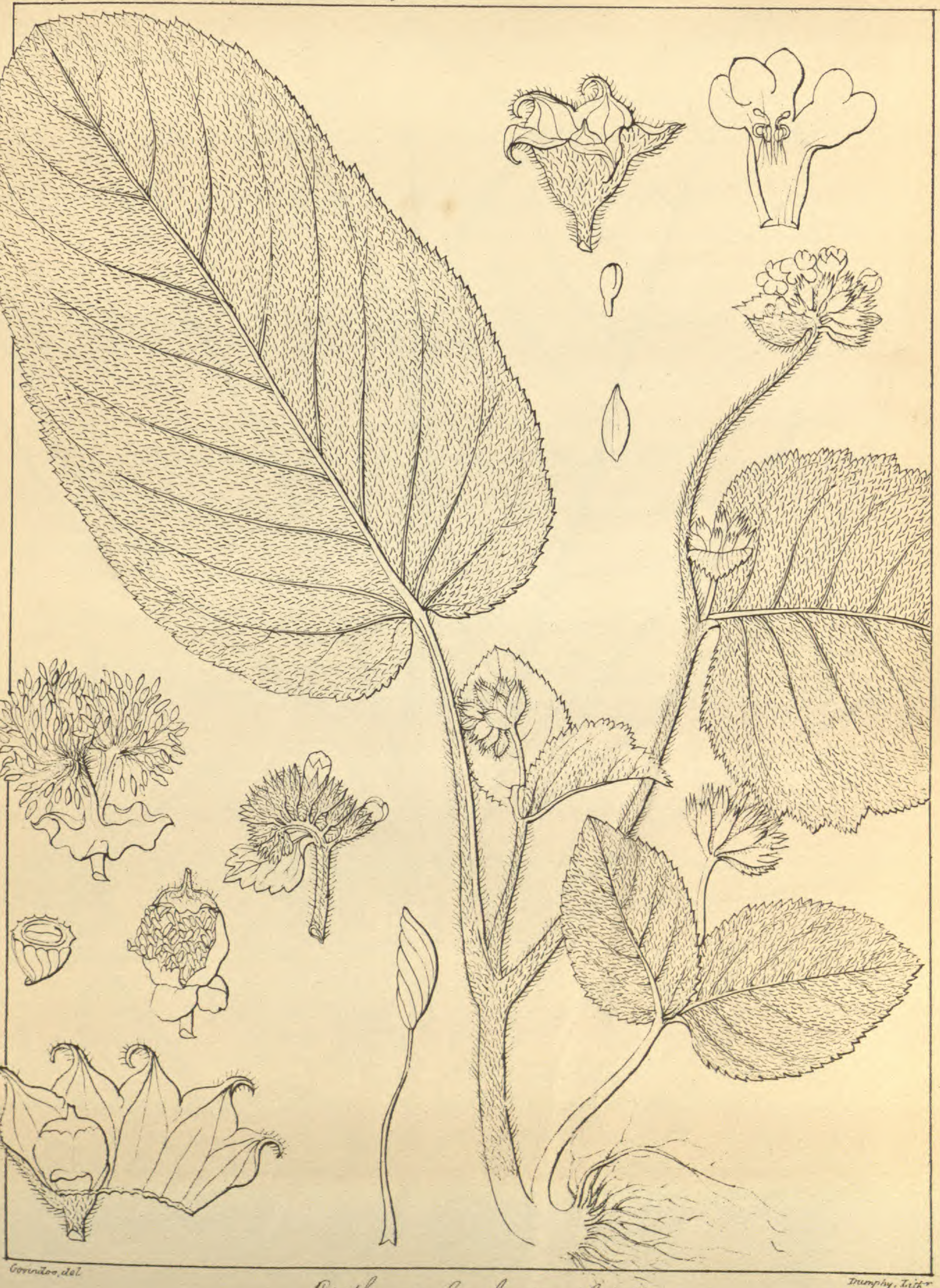


Govindoo, del. Dumphy, Lith.

Jerdonia Indica

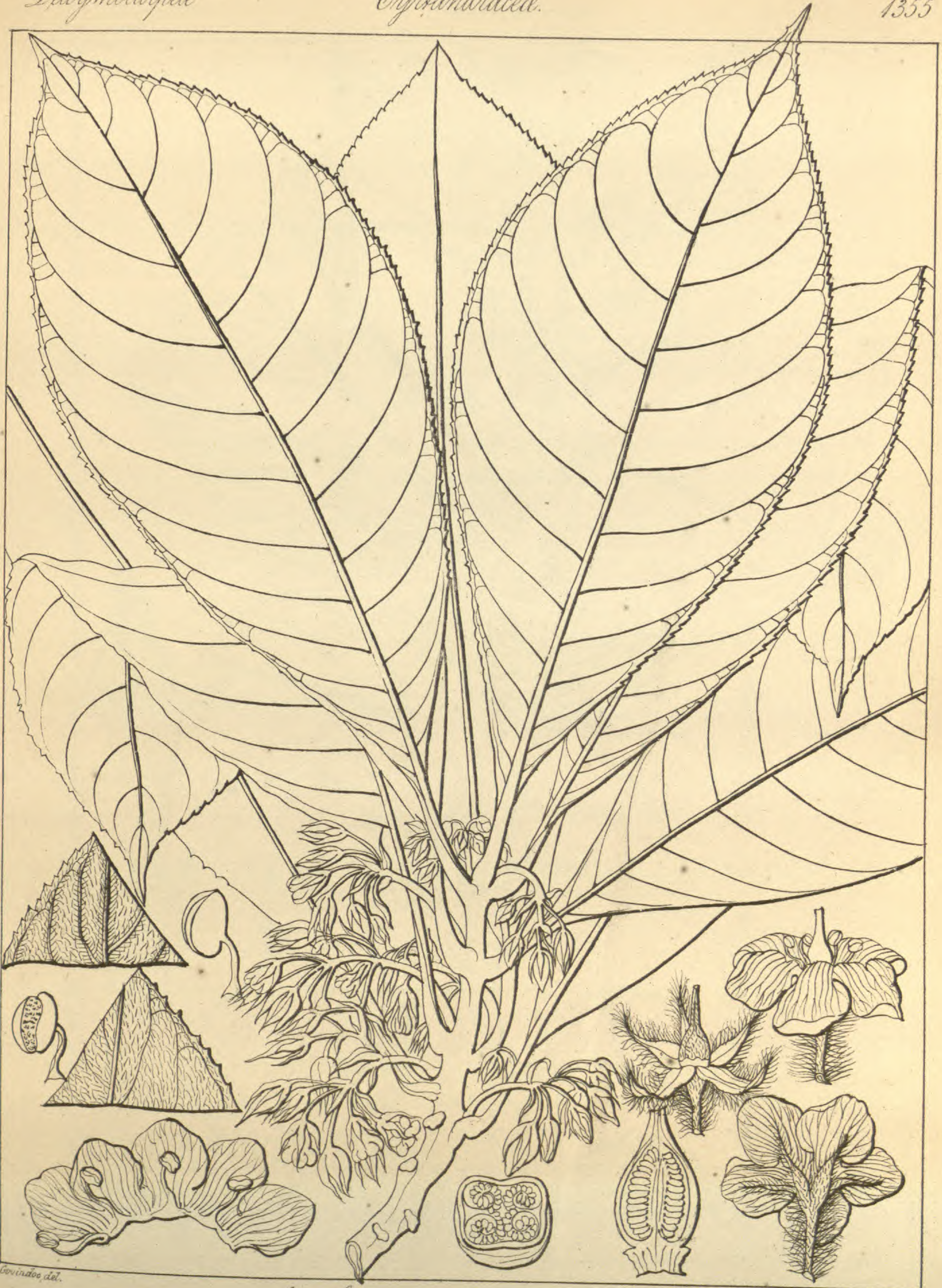
Govindoo, del. Dumphy, Lith.

Klugia Notoniana (Alph. DC.)



Govindoo, del. Dumphy. Lith.

Epithema Ceylanica (Gardner)



Govindoo, del. Dumphy, Lith.

Isanthera permollis (Nees)

Govindoo, del. Dumphy, Lith.

Rivea ornata (choisy)

Govindoo, del. Dumphy, Lith.

Argyreia fulgens (choisy.)

Govindoo, del.

Dumphy, Lithr.

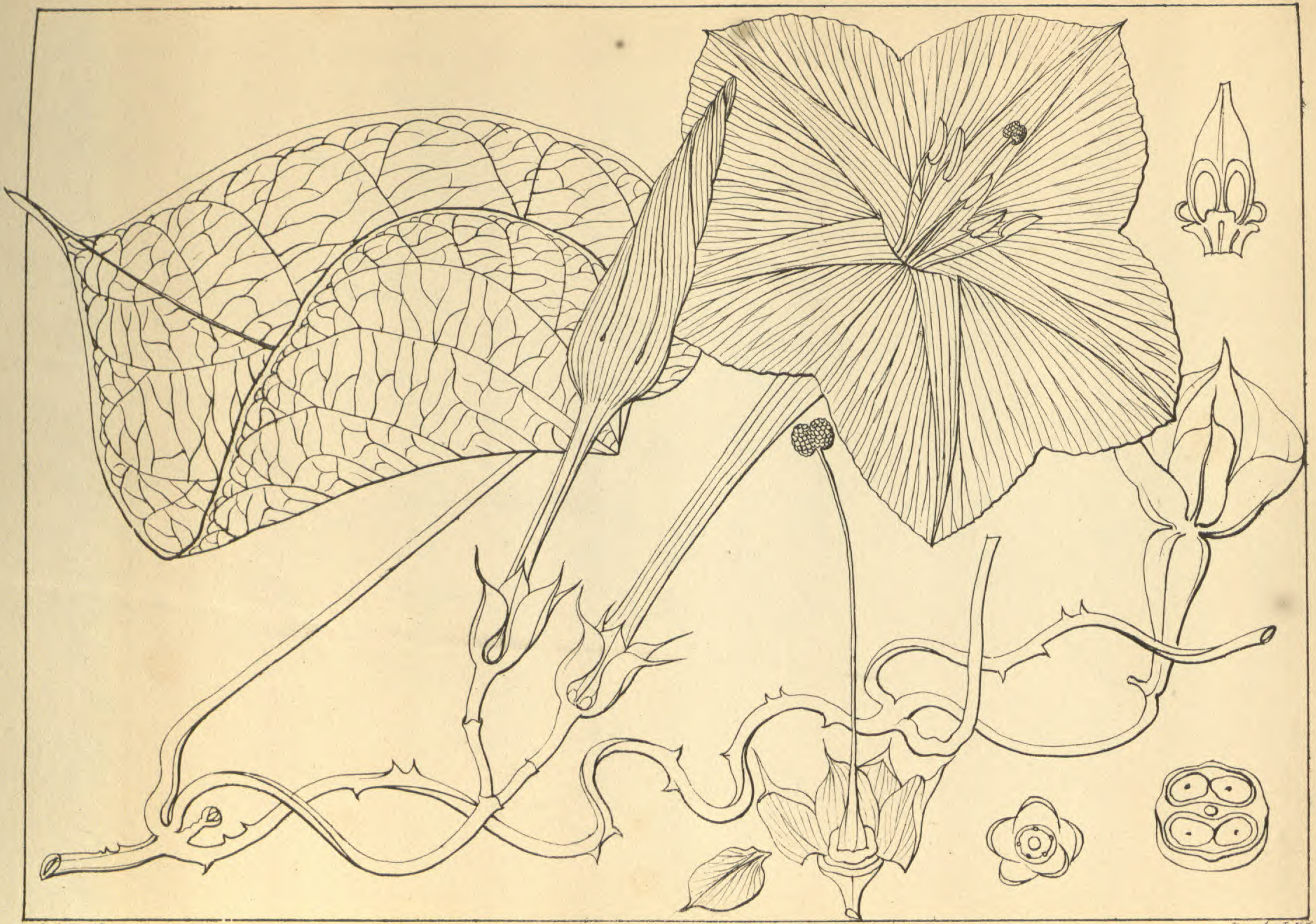
Argyreia tilifolia (R.W.)

Govindoo, del. Dumphy, Lith.

Lettsomia aggregata (Roxb.)

Govindoo, del. Dumphy, Lith.

Lettsomia setosa (Roxb.)

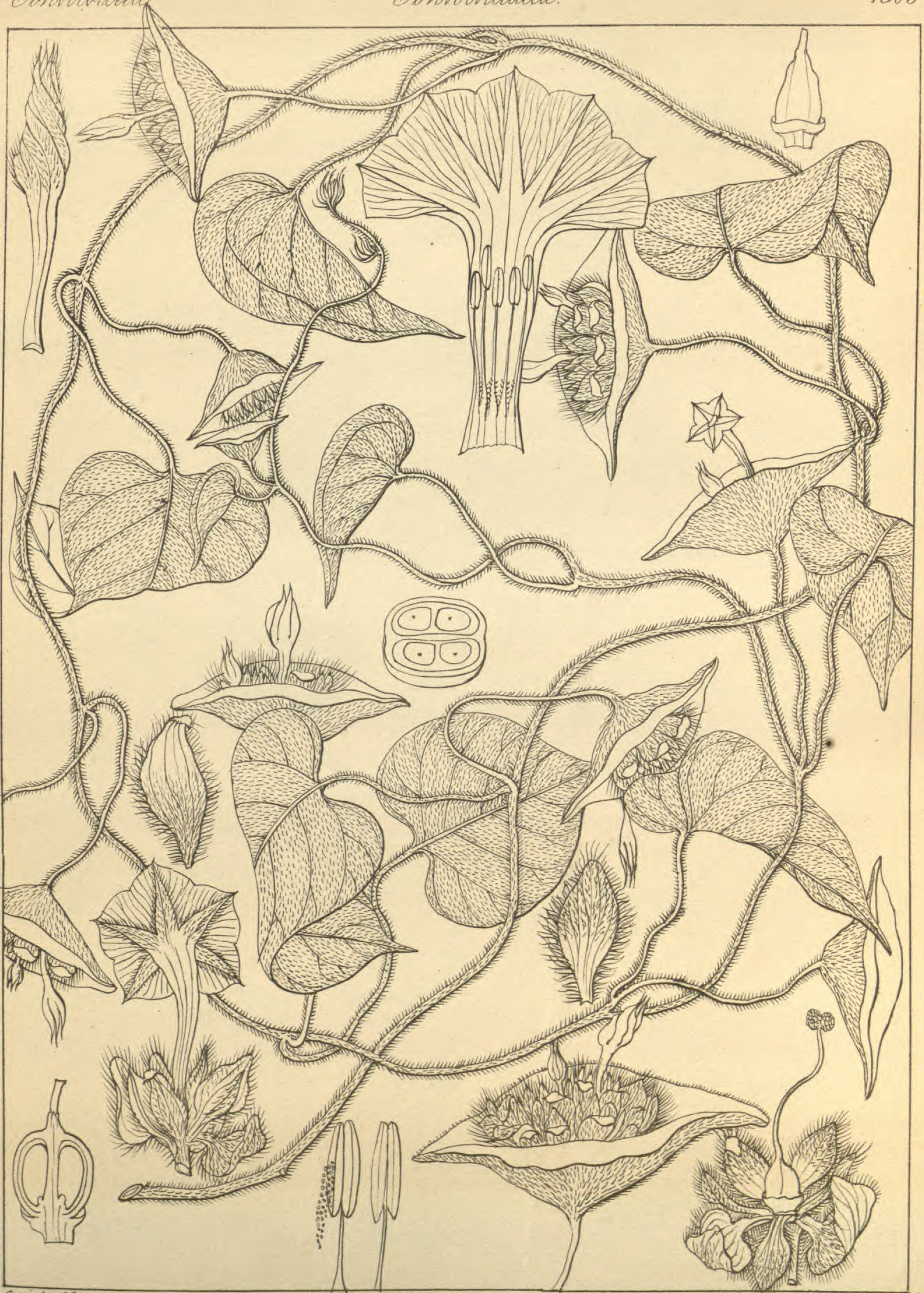


Govindoo, del. Dumphy, Lith.

Calonyction speciosum (Choisy)

Govindoo, del. Dumphy, Lith.

Lepistemon flavescens (Blume)

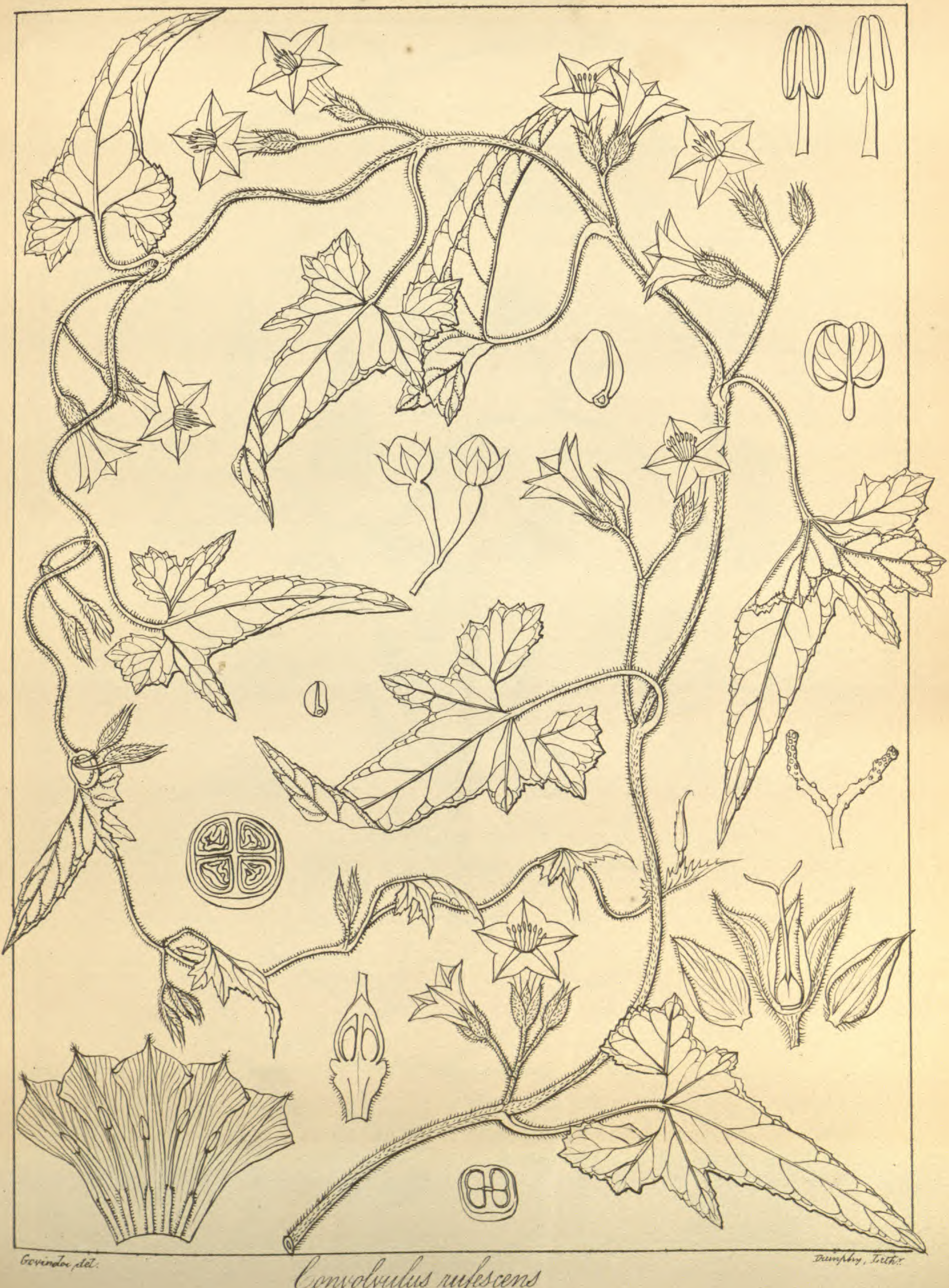


Govindoo, del Dunphy, Lith.

Ipomœa pileata (Roxb)

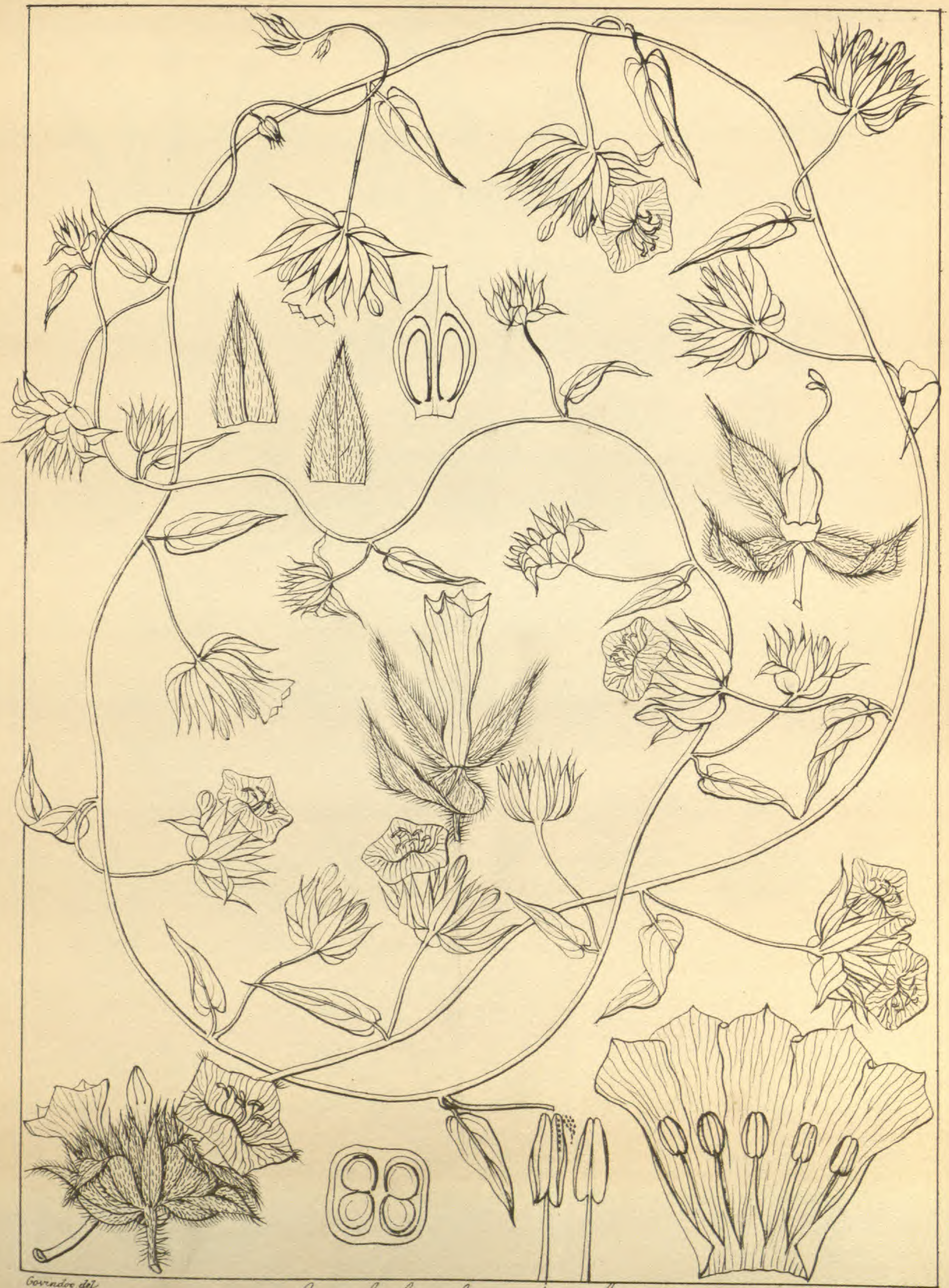
Govindoo, del. Dumphy, Lith.

Ipomæa Wightii (Choisy)



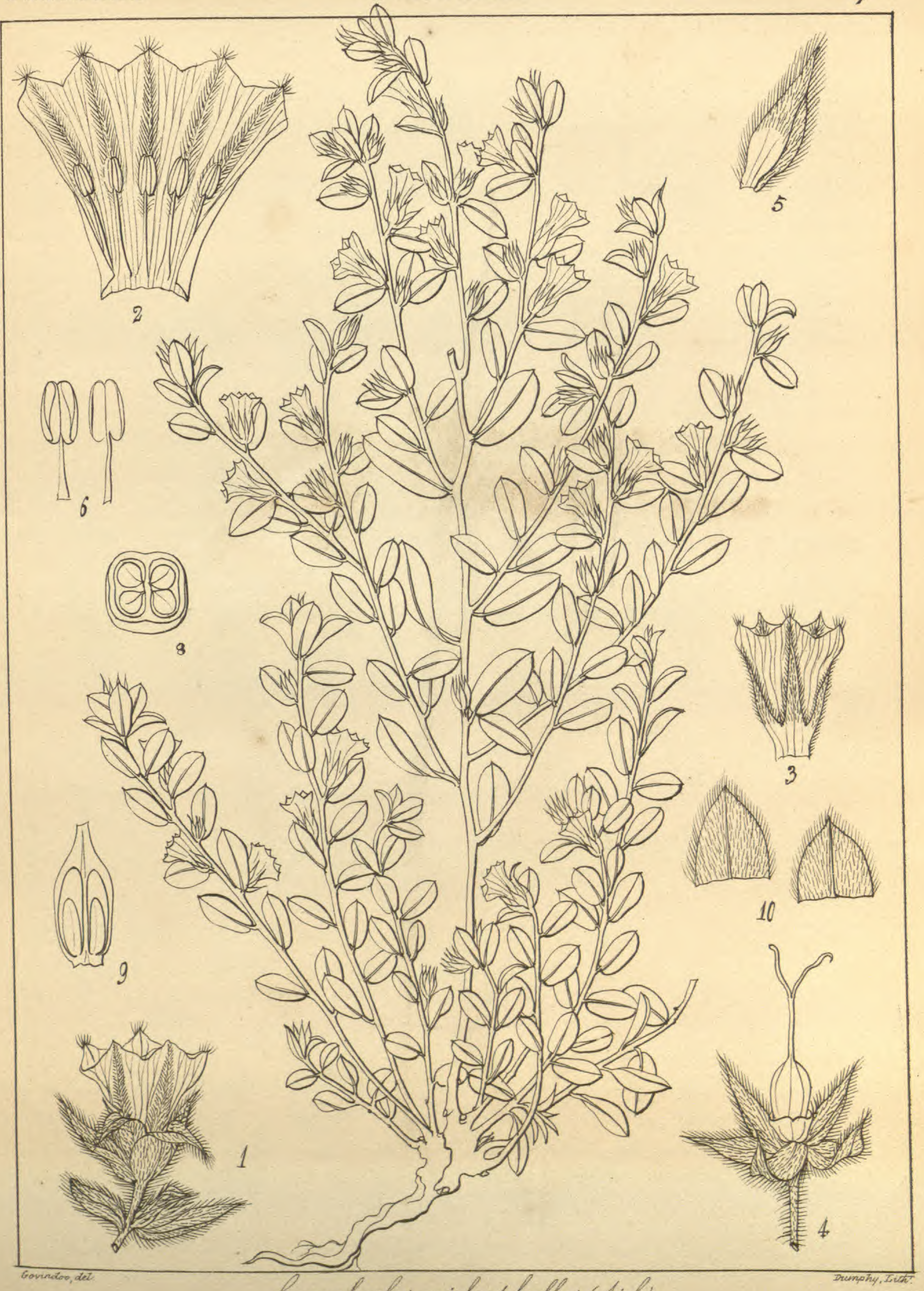
Govindoo, del. Dumphy, Lith.

Convolvulus rufescens



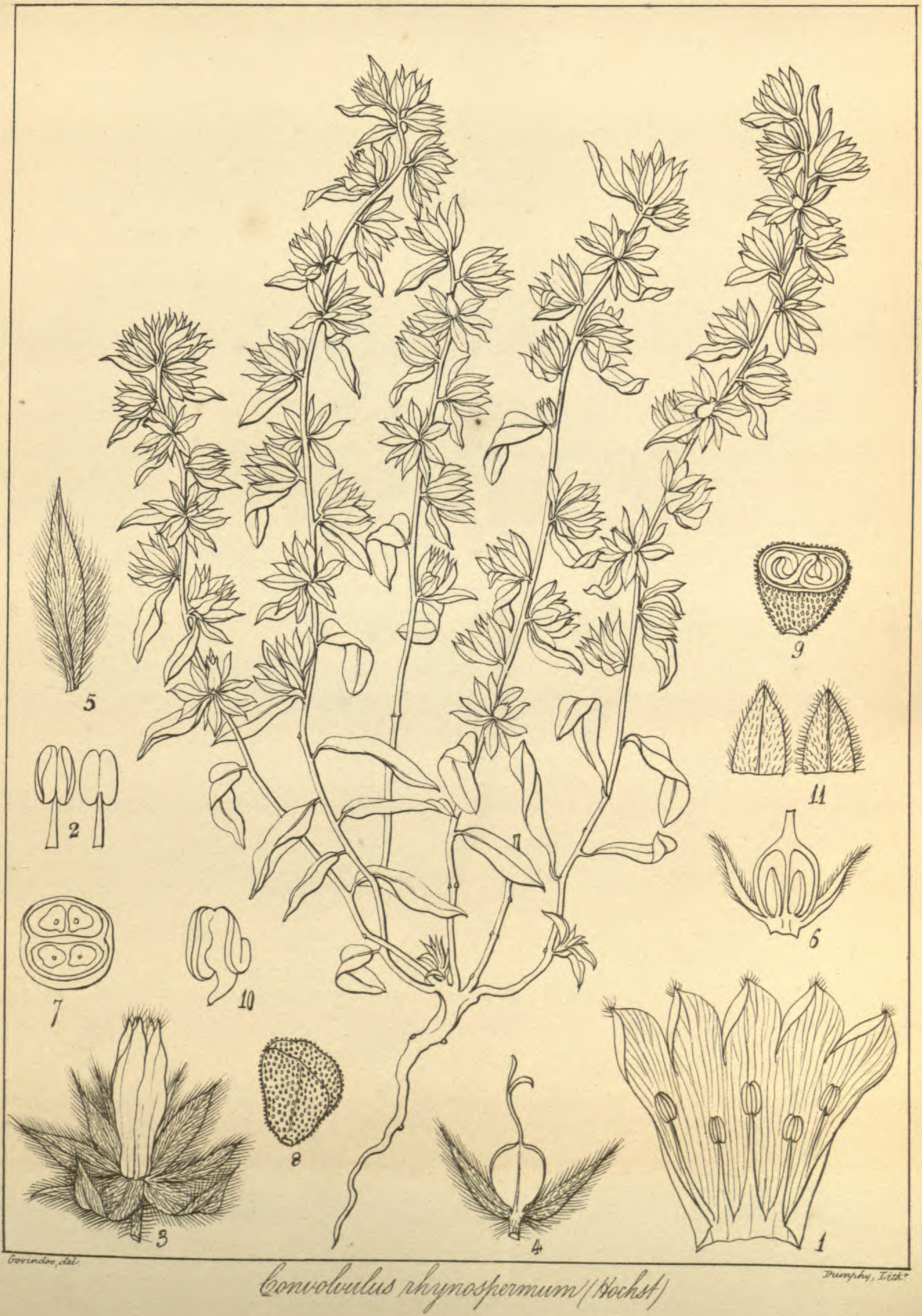
Govindoo, del. Dumphy, Lith.r

Convolvulus glomeratus (Ch)



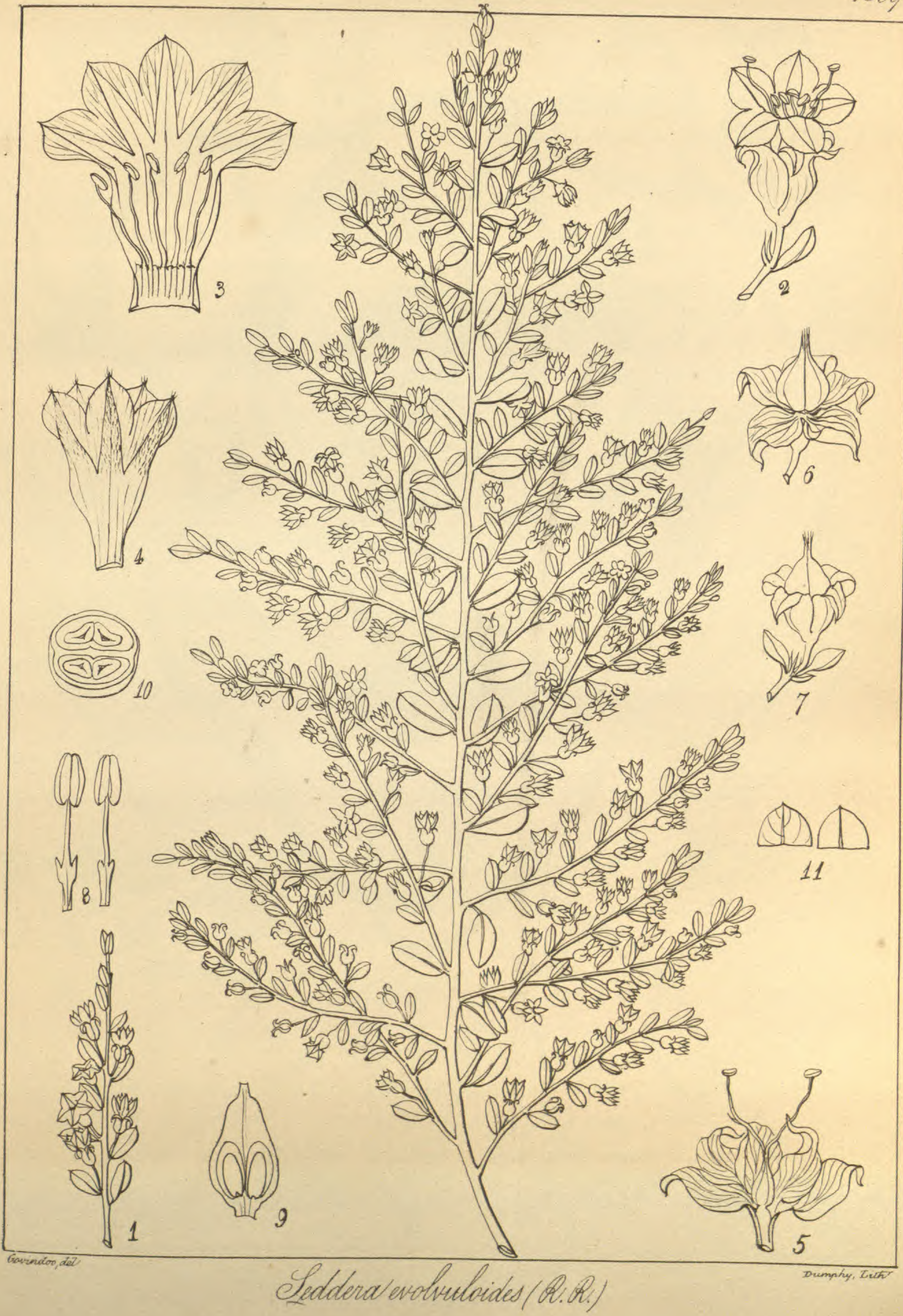
Govindoo, del. Dunphy, Lith.

Convolvulus michrophyllus (Sieb)



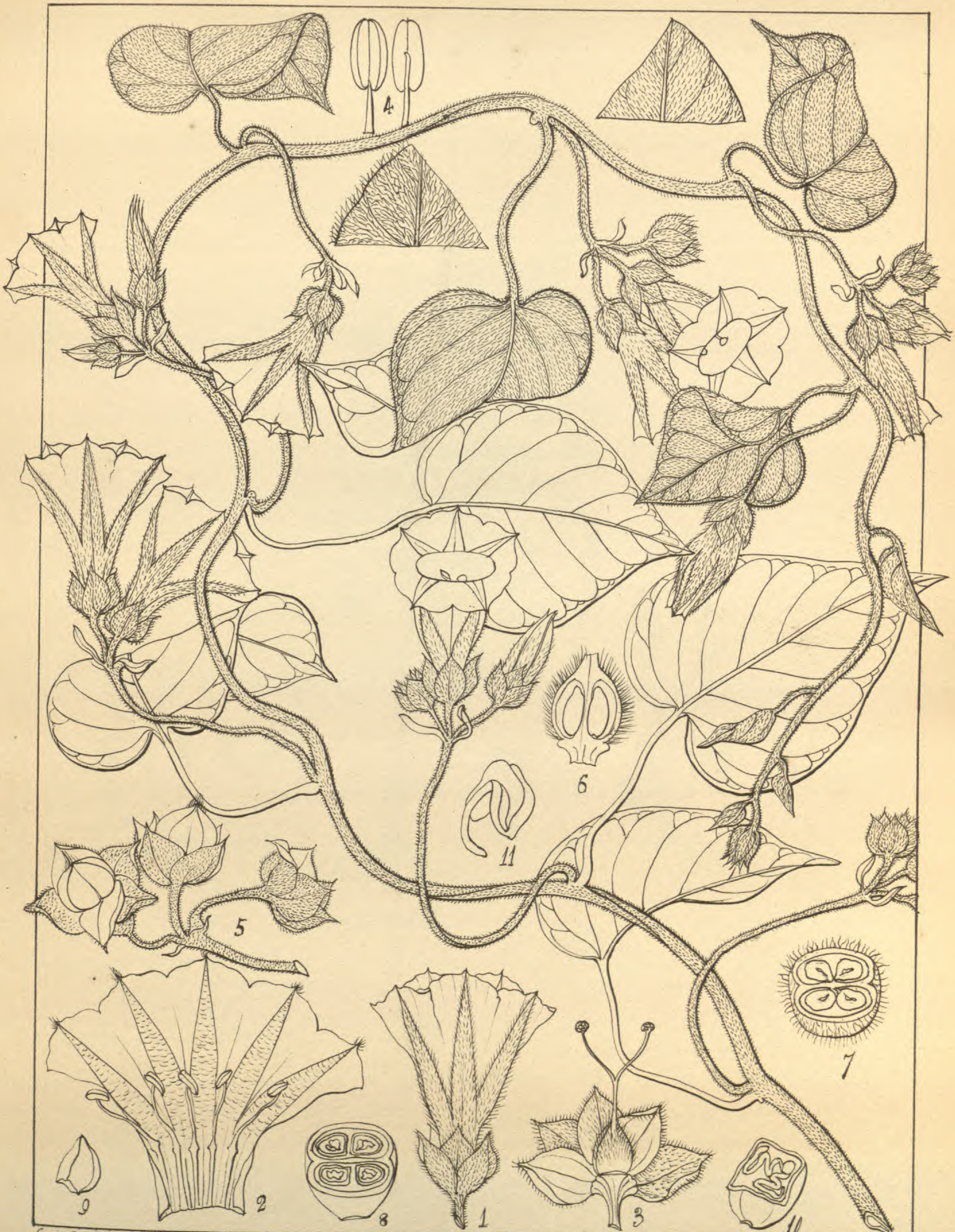
Govindoo, del. Dumphy, Lith.

Convolvulus rhynospermum (Hochst)



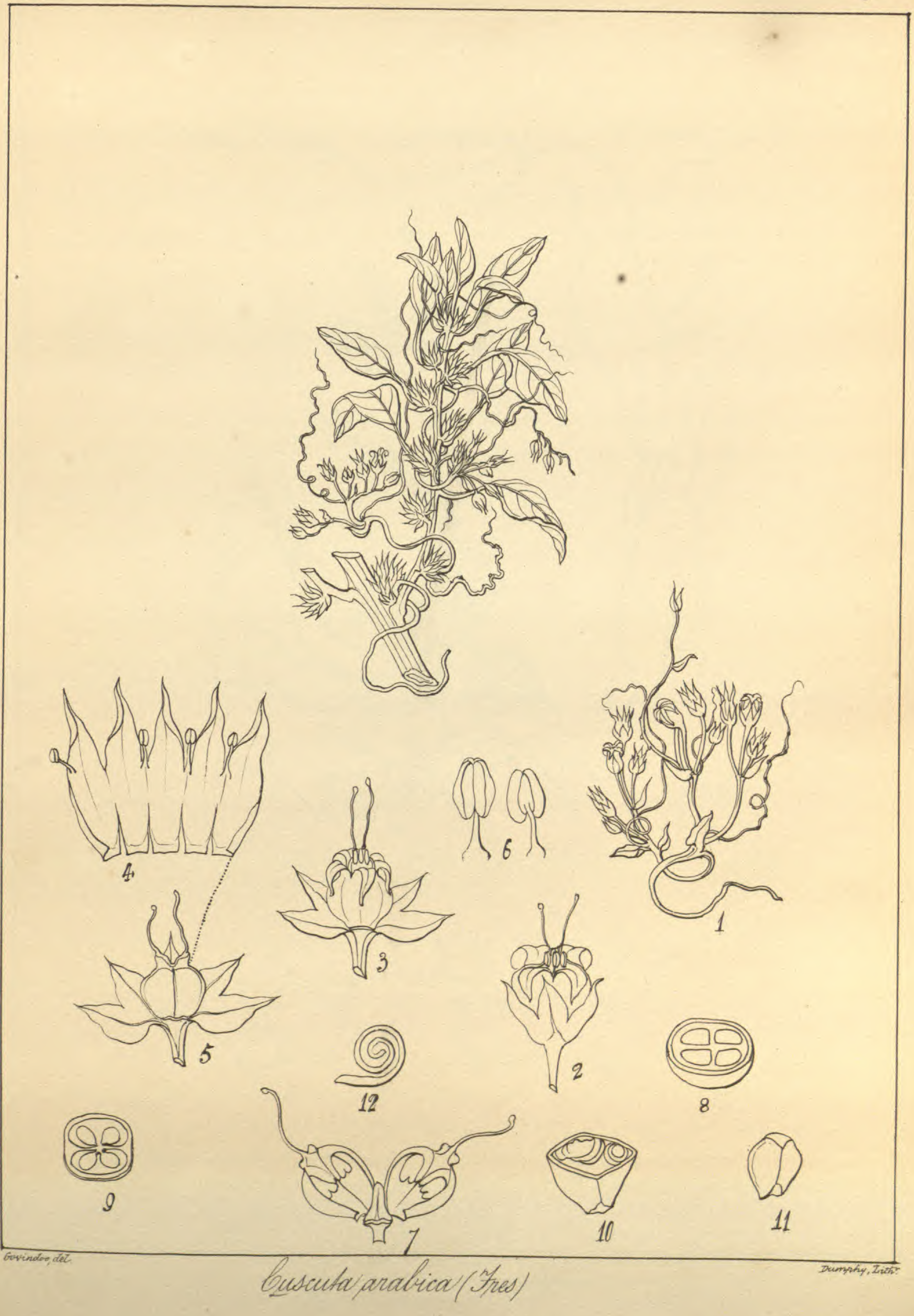
Govindoo, del. Dumphy, Lith.

Seddera evolvuloides (R.R.)



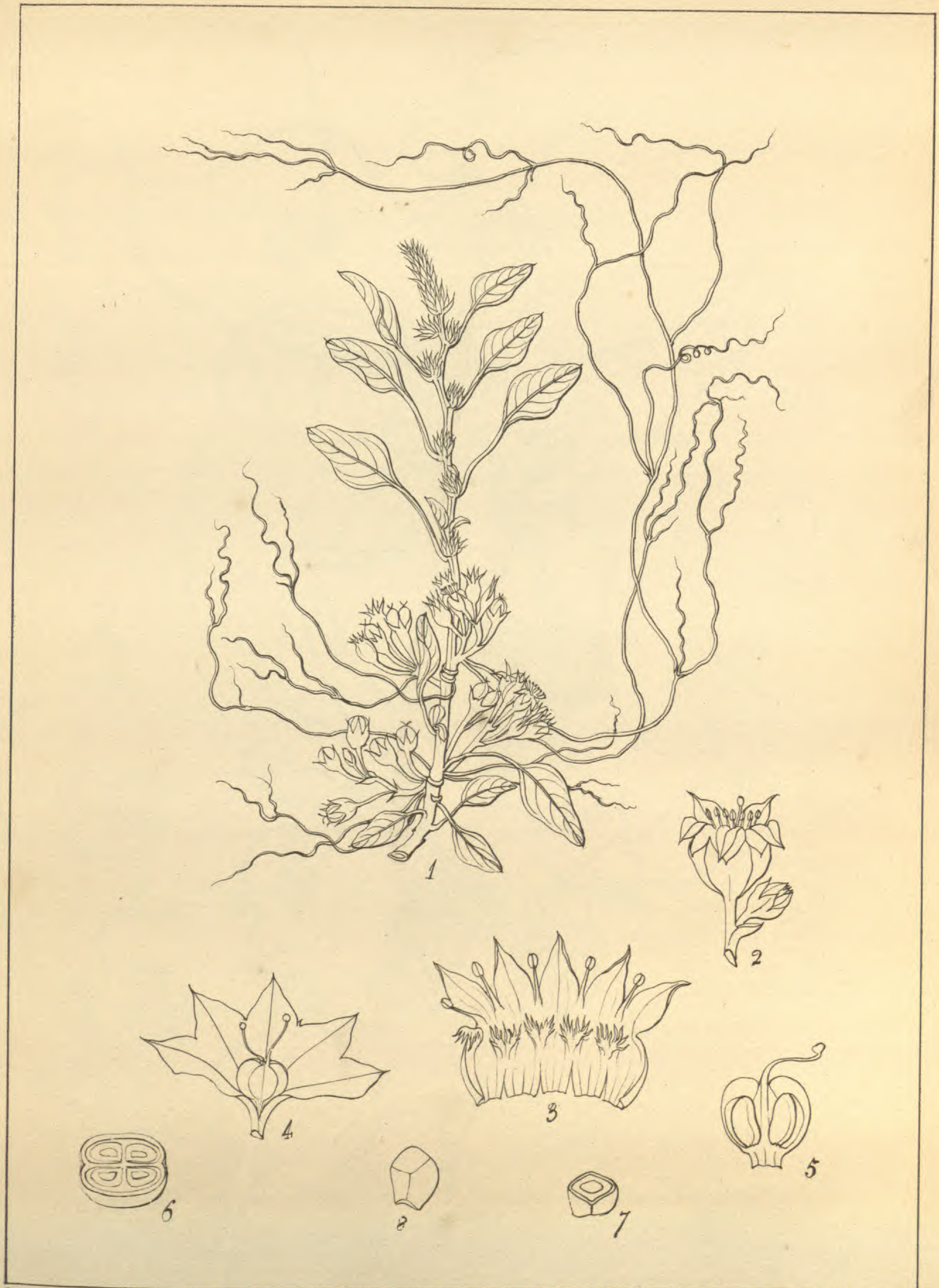
Govindoo, del. Dumphy, Lith.

Breweria Roxburghii (Choisy)



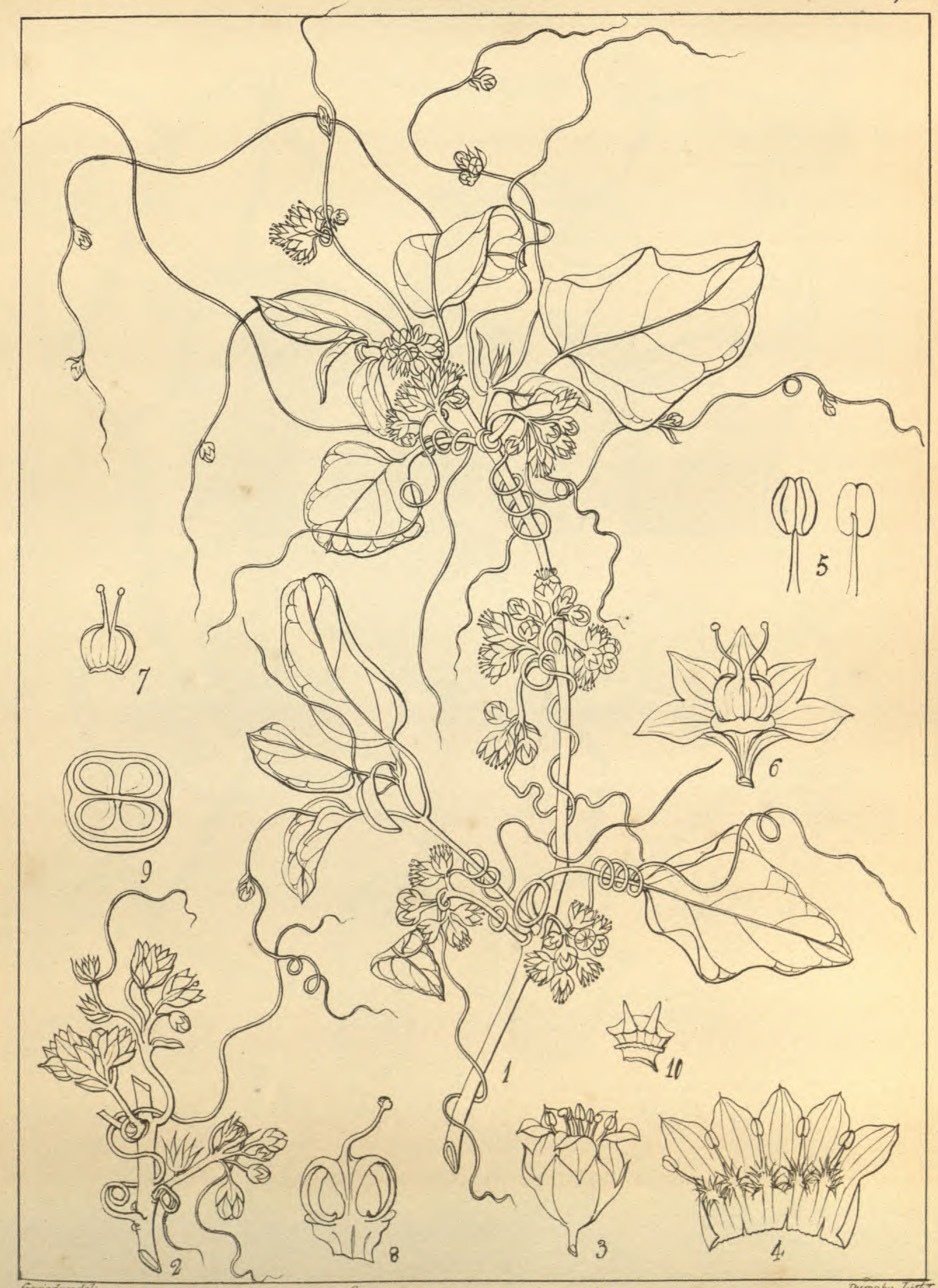
Govindoo, del. Dumphy, Lith.

Cuscuta arabica (Fres)



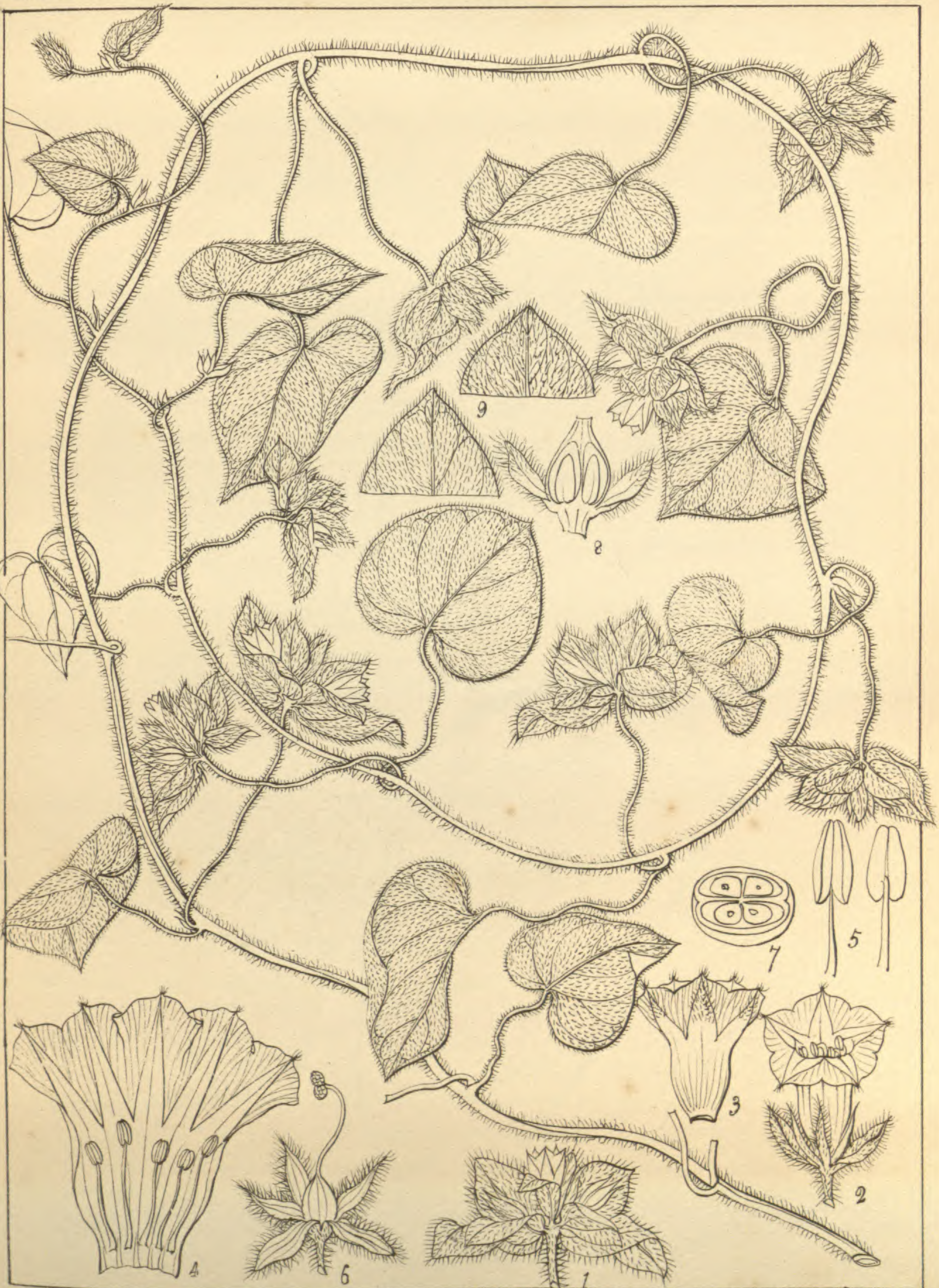
Govindoo del. Dumphy, Lith.

Cuscuta hyalina (Roxb)



Gövindoo, del. Dumphy, Lith.

Cuscuta chinensis (Lam.)



Govindo del. Dunphy, Lith.

Ipomœa bracteata (R.W.)

Govindoo, del. Dumphy, Lith.

Ipomæa campanulata (Linn.)

Govindoo, del. Dumphy, Lith.

Porana racemosa (Roxb)

Govindoo, del. Dumphy, Lith.

Sericostoma pauciflora (Stocks M.S.S.)

Govindoo, del. Dunphy, lith.

Cordia obliqua (Willd)

Govindoo, del. Dumphy, Lith.

Cordia Rothii (Ræm & Sch)

Govindoo, del. Dumphy, Lith.

Cordia fulvosa (R. W.)

Govindoo, del. Dunphy, Lith.

Cordia Perrottetii (D.C.)

Govindoo, del. Dumphy, Lith.

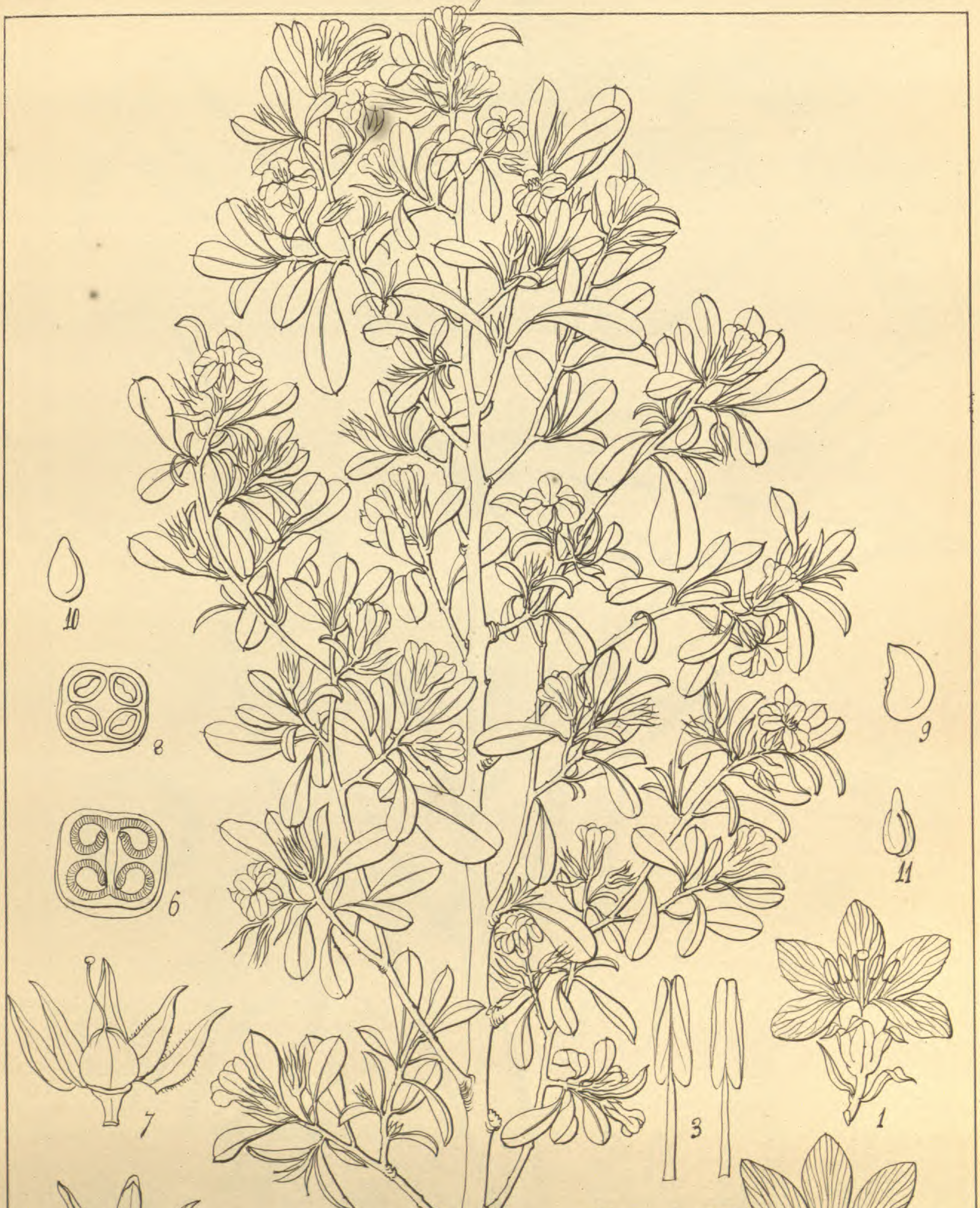
Ehretia lævis (Roxb)

Govindoo, del. Dumphy, Lith.

Ehretia ovalifolia (R.W.)

Govindoo, del. Dunphy, Lith.

Ehretia Wightiana (Wall.)

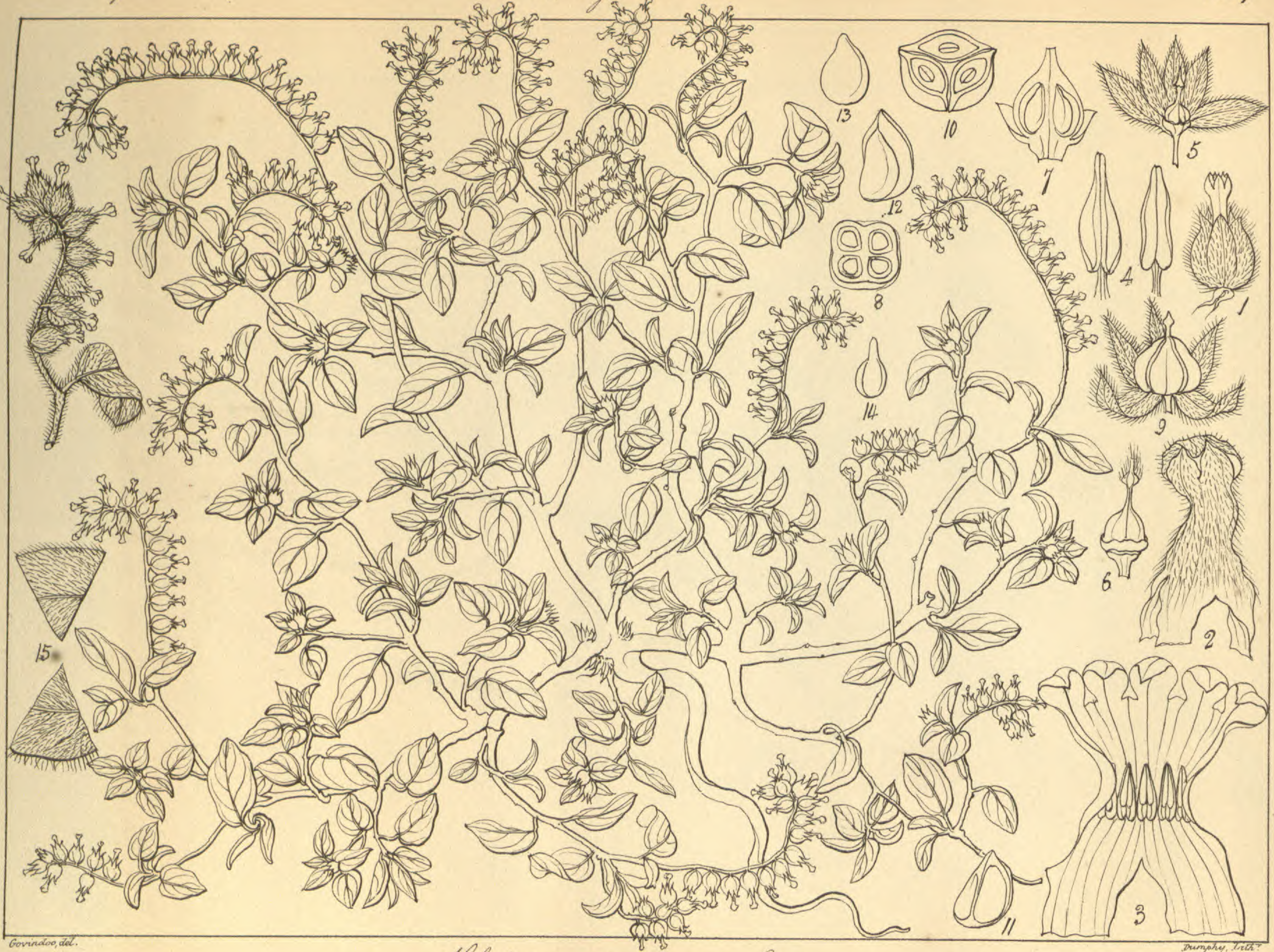


Govindoo, del. Dumphy, Lith.

Ehretia (?) cuneata (R. W.)

Govindoo, del. Dumphy, Lith.

Tournefortea reticosa (R.W.)

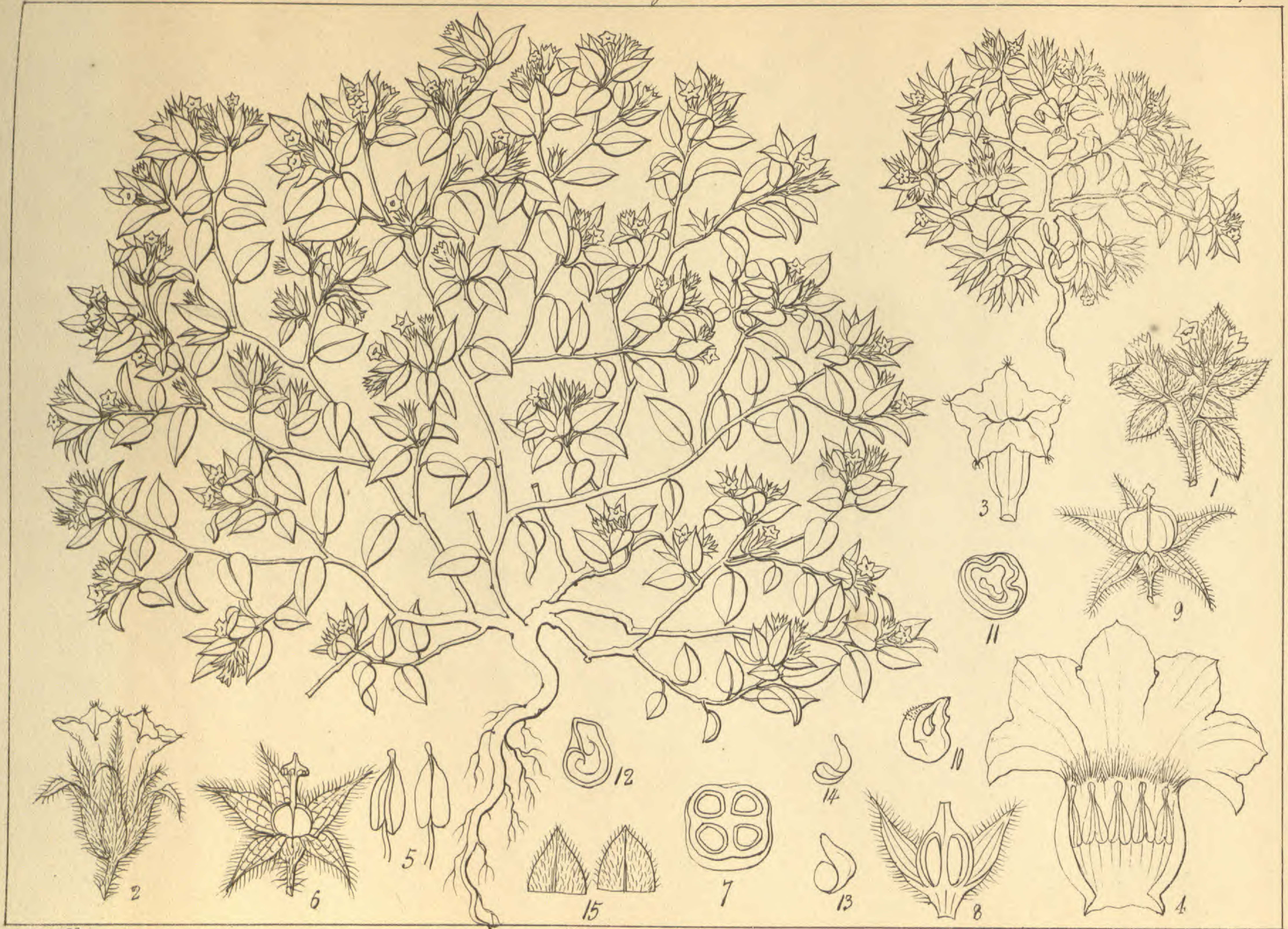


Govindoo, del. Dumphy, Lith.

Heliotropium supinum (Lin.)
B. Malabaricum (Benth)

Govindoo, del. Dunphy, Lith.

Heliotropium Coromandelianum (Retz)



Govindoo, del. Dumphy, Lith.

Heliotropium scabrum (Retz)

Govindoo, del. Dumphy, Lith.

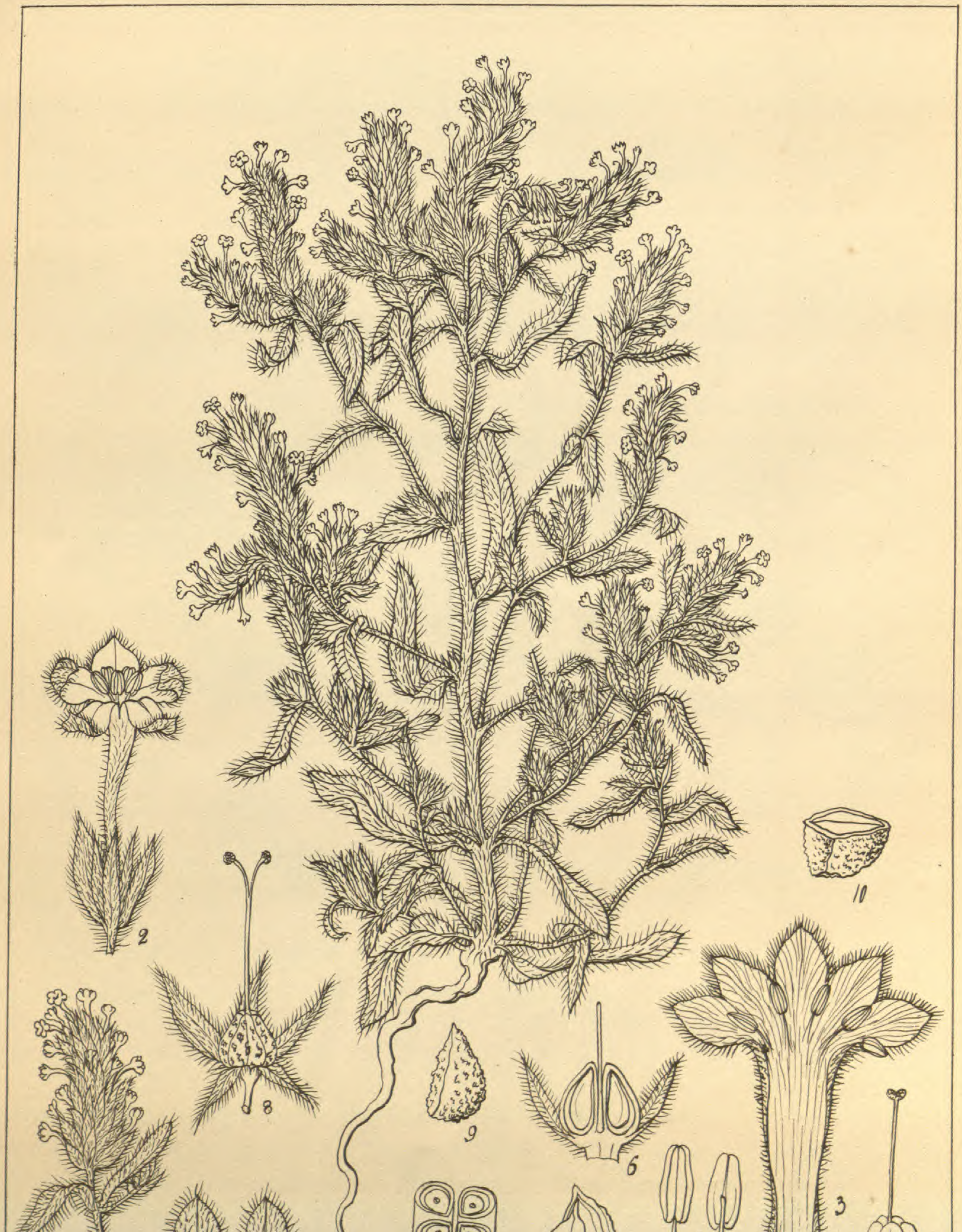
Heliotropium marifolium (Retz)

Govindoo, del. Dumphy, Lith.

Heliotropium linifolium (Lehm.)

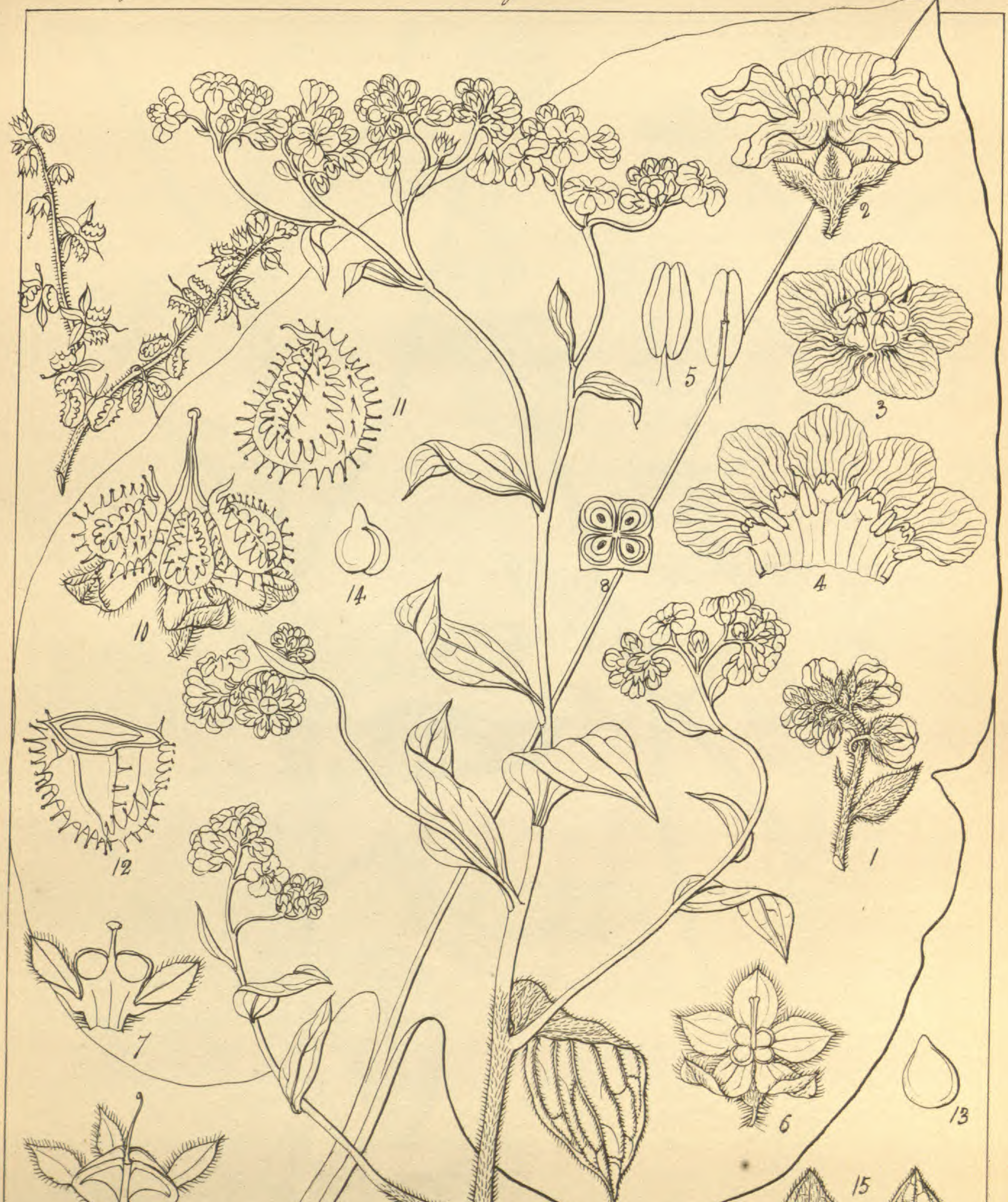
Govindoo, del. Dumphy, Lithr.

Heliotropium Rottleria (Lehm.)



Govindoo del. Dumphy, Lith.

Arnebia hispidissima (D.C.)

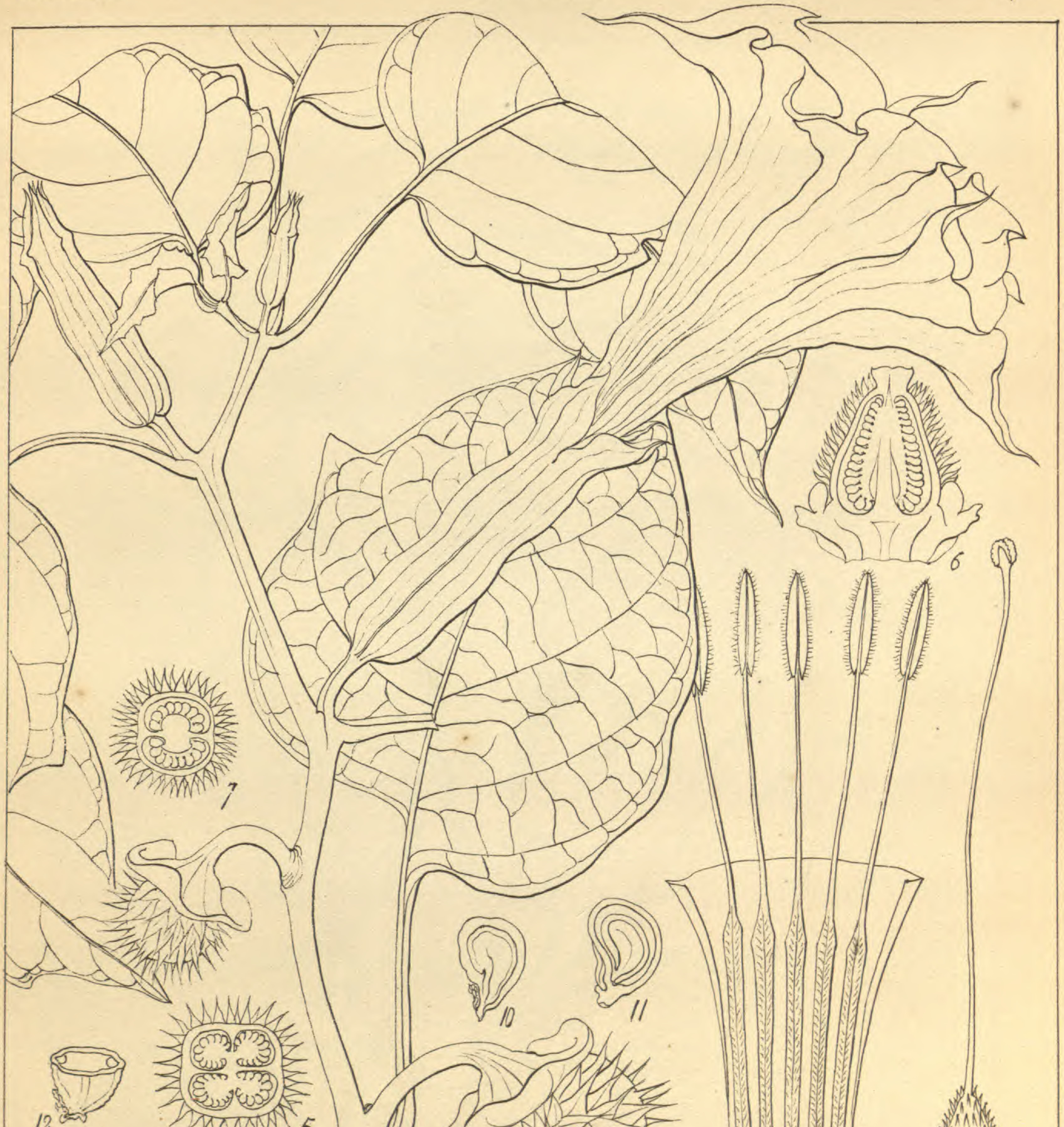


Govindoo, del. Dumphy, Lith.

Echinospermum cœlestinum (R.W.)

Govindoo, del. Dumphy Lith.

Cynoglossum furcatum (Wall)



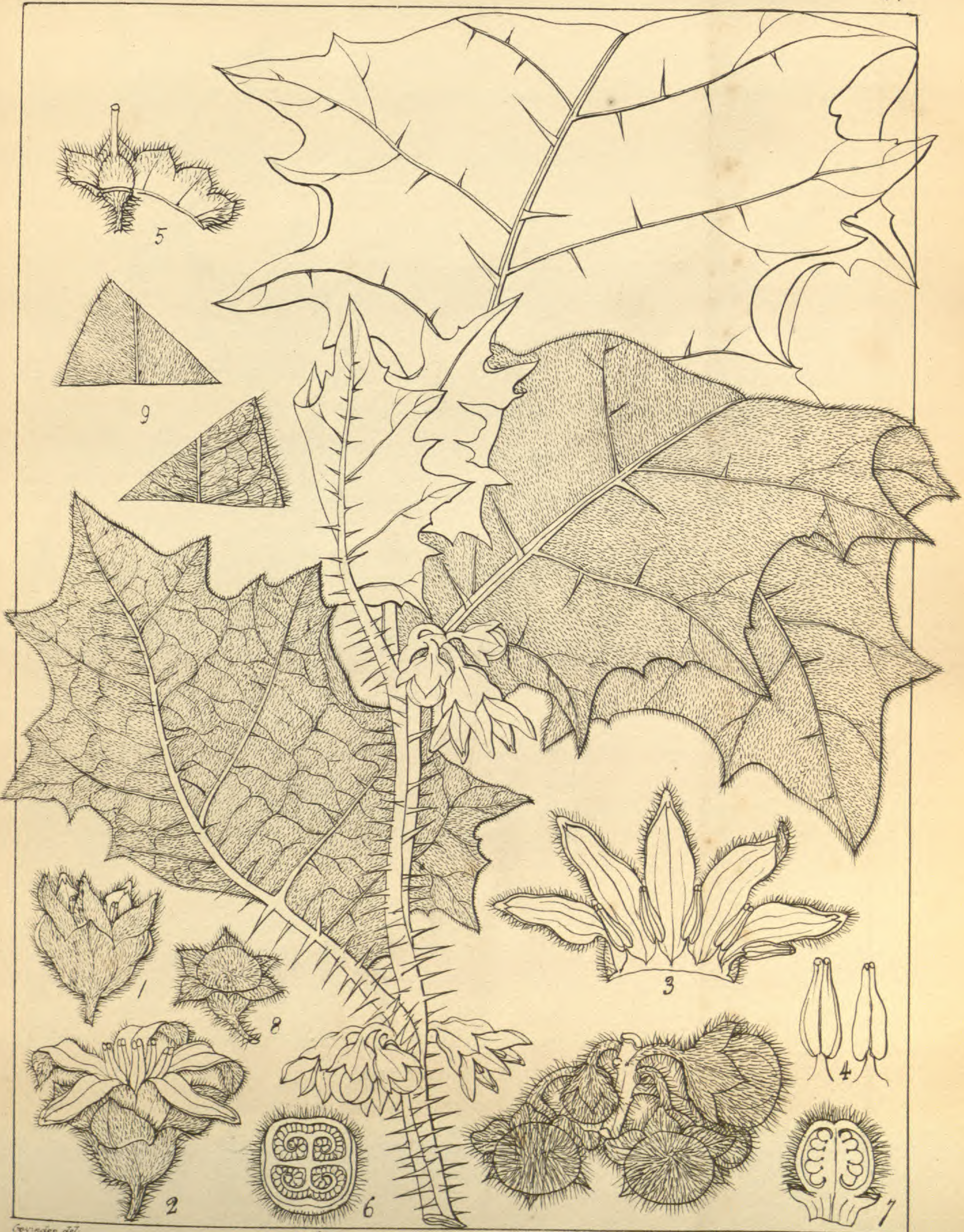
Govindoo, del. Dumphy, Lith.

Datura fastuosa (Mill.- Nees)

Solanum denticulatum (Blume)

Govindoo, del. Dunphy, Lith.

Solanum verbascifolium (Linn)

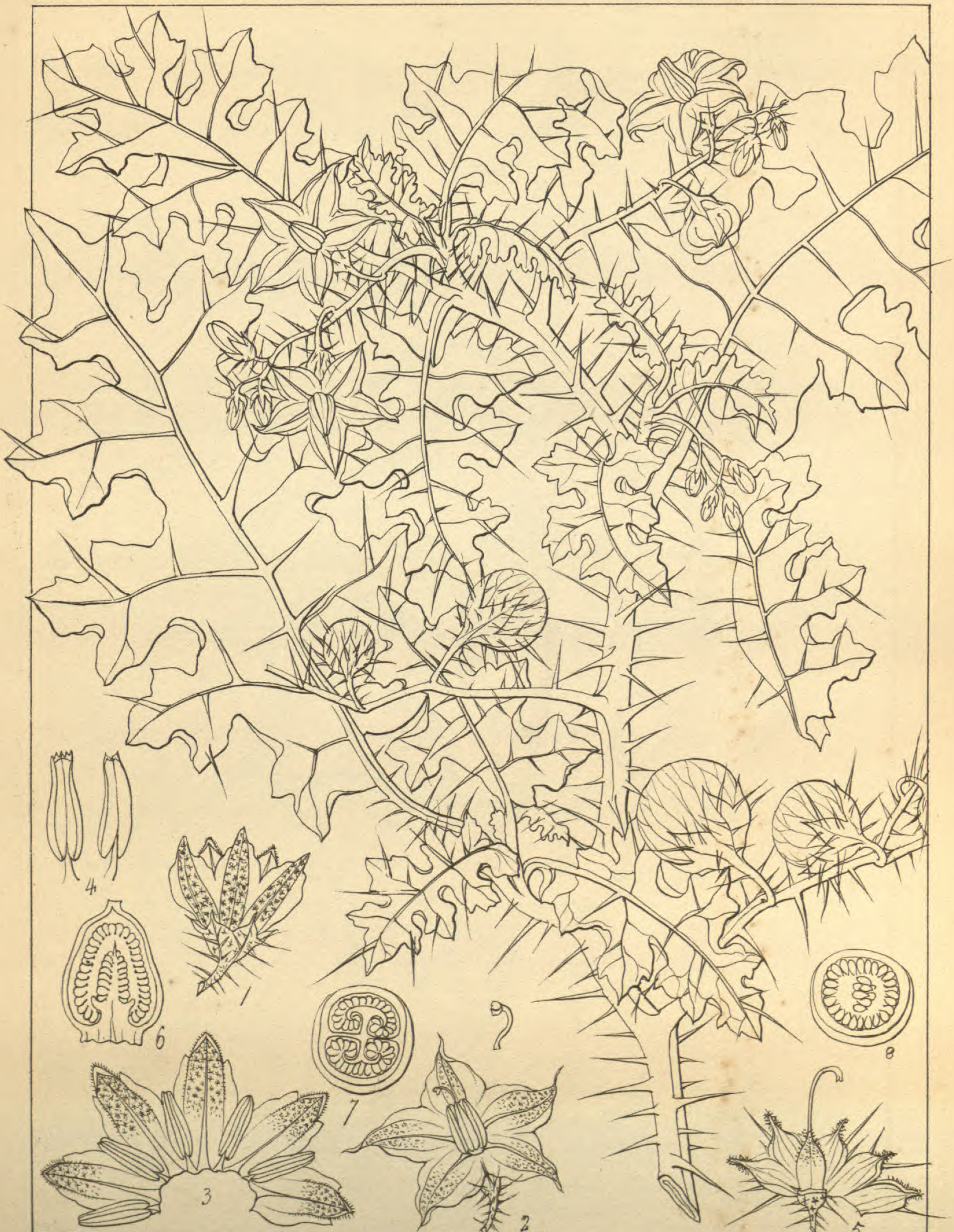


Govindoo, del. Dumphy, Lith.

Solanum ferox_ majus (Nees)

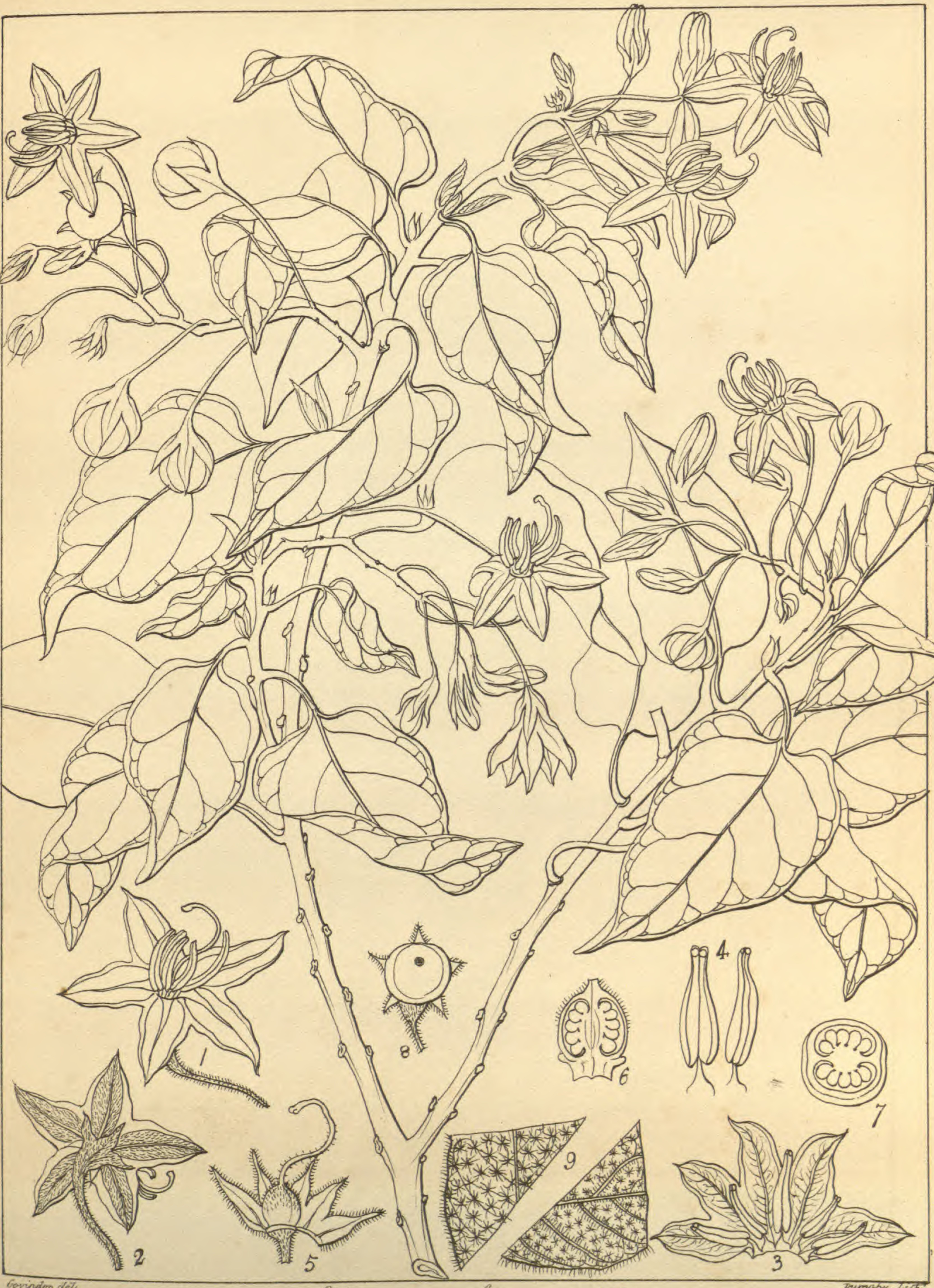
Gorindoo, del. Dumphy, Lith.

Solanum ferox-minus (Nees)



Govindoo, del. Dumphy, Lith.

Solanum Jacquini (Willd)



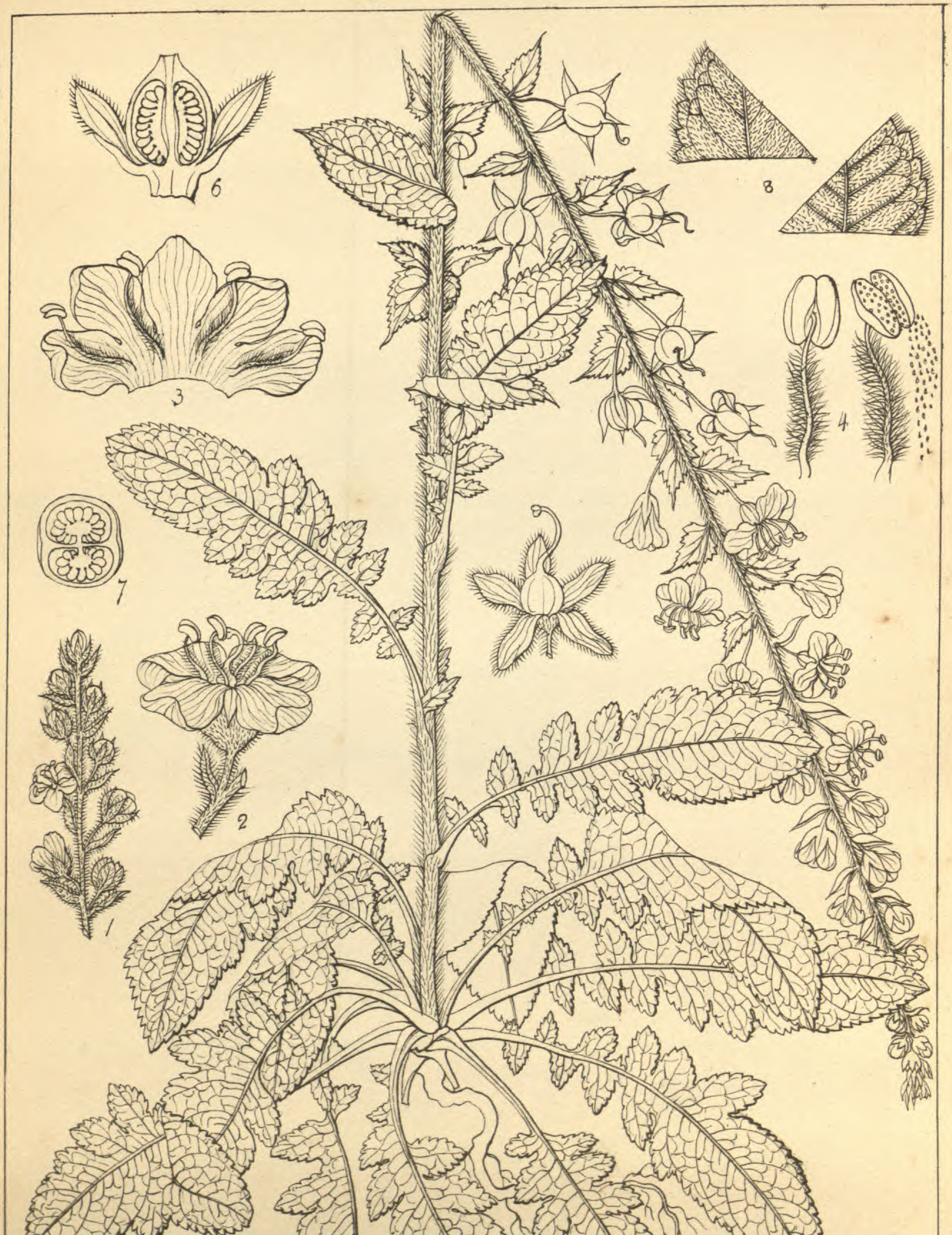
Govindoo, del. Dumphy, Lith.

Solanum pubescens (Willd)

Govindoo, del. Dumphy, Lith.

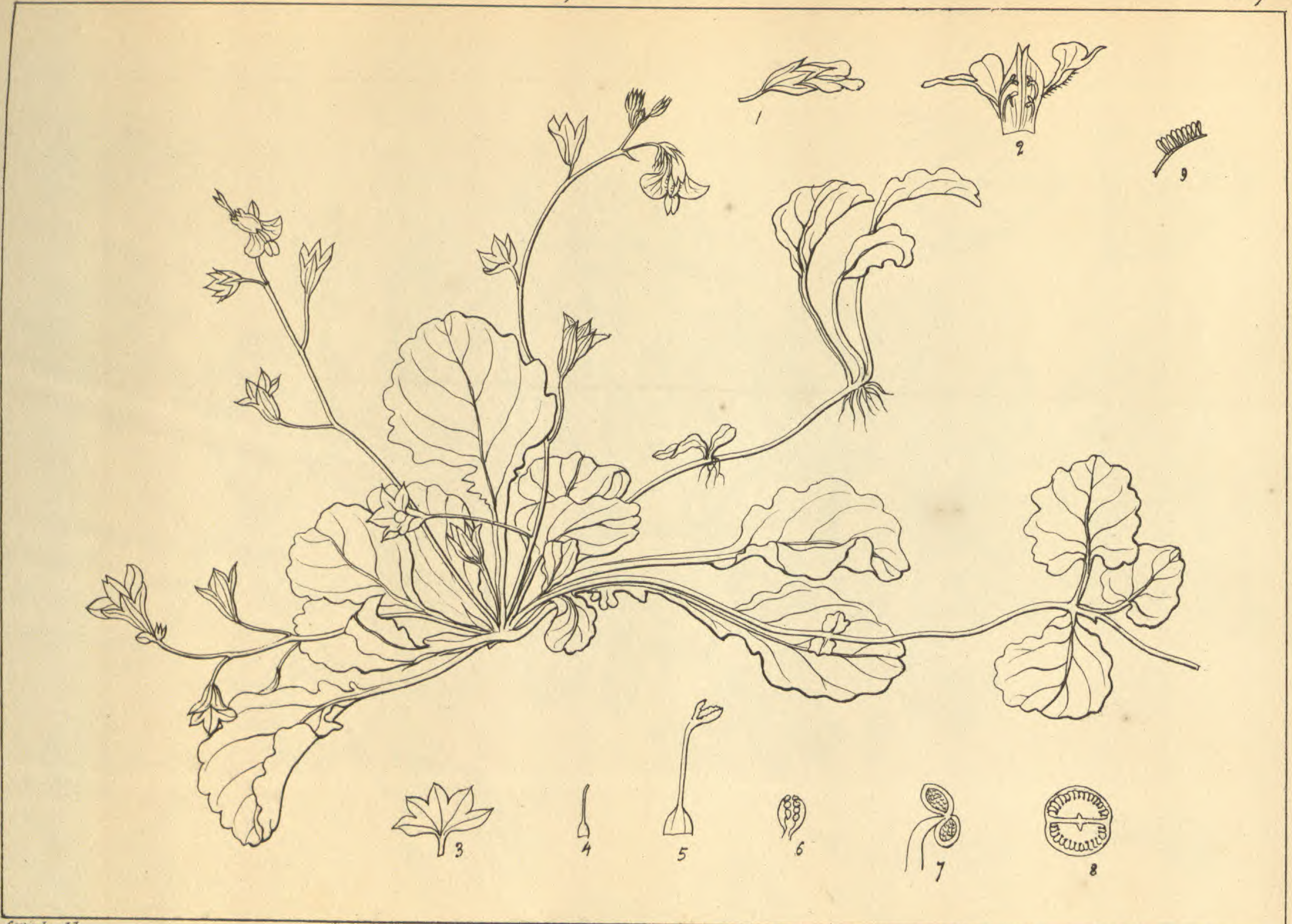
Lycium Indicum (R.W.)

Verbascum virgatum (Witherin.)



Govindoo del. Dumphy, Lith.

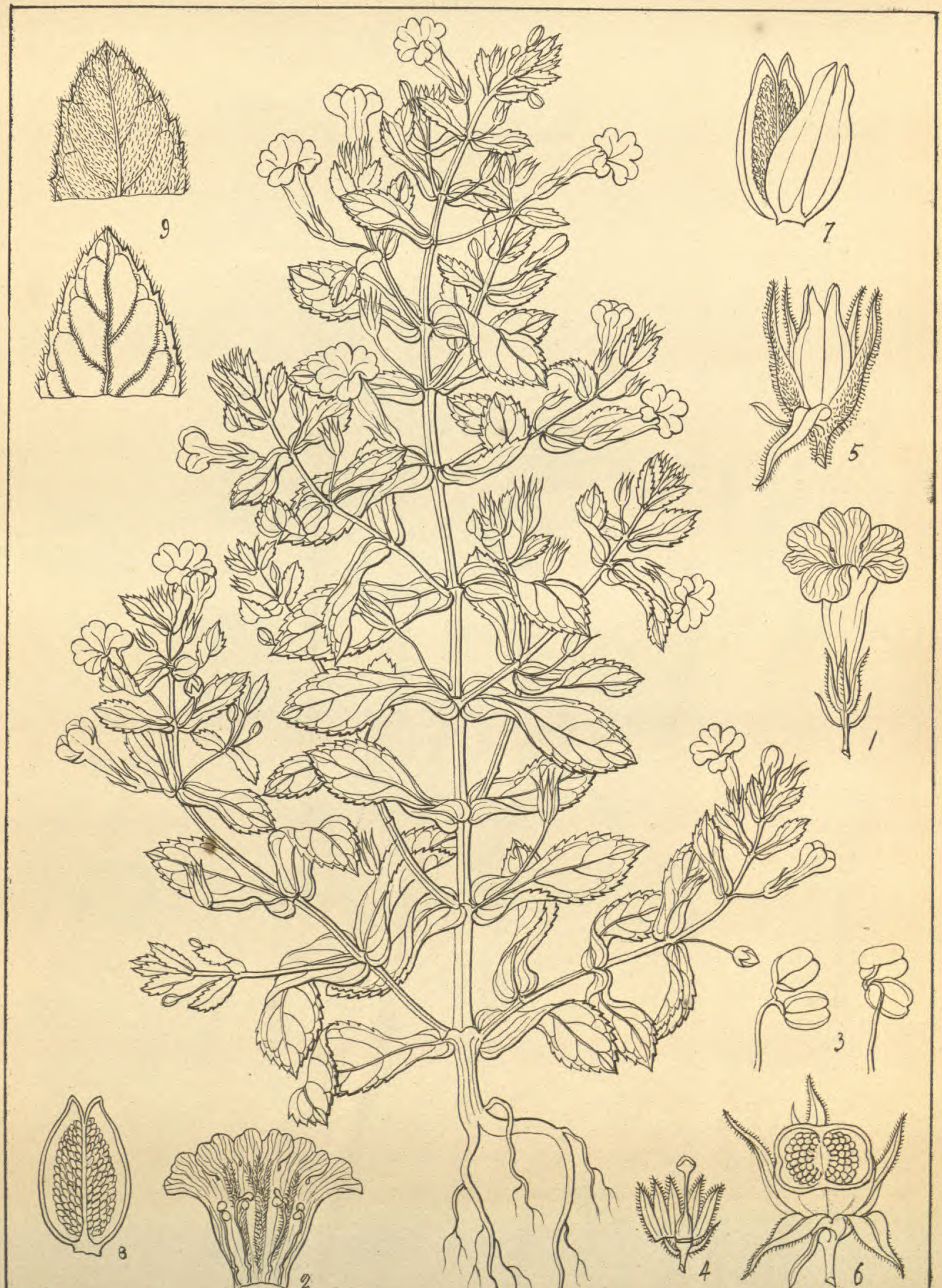
Celsia coromandelina (Vahl.)



Govindoo, del.

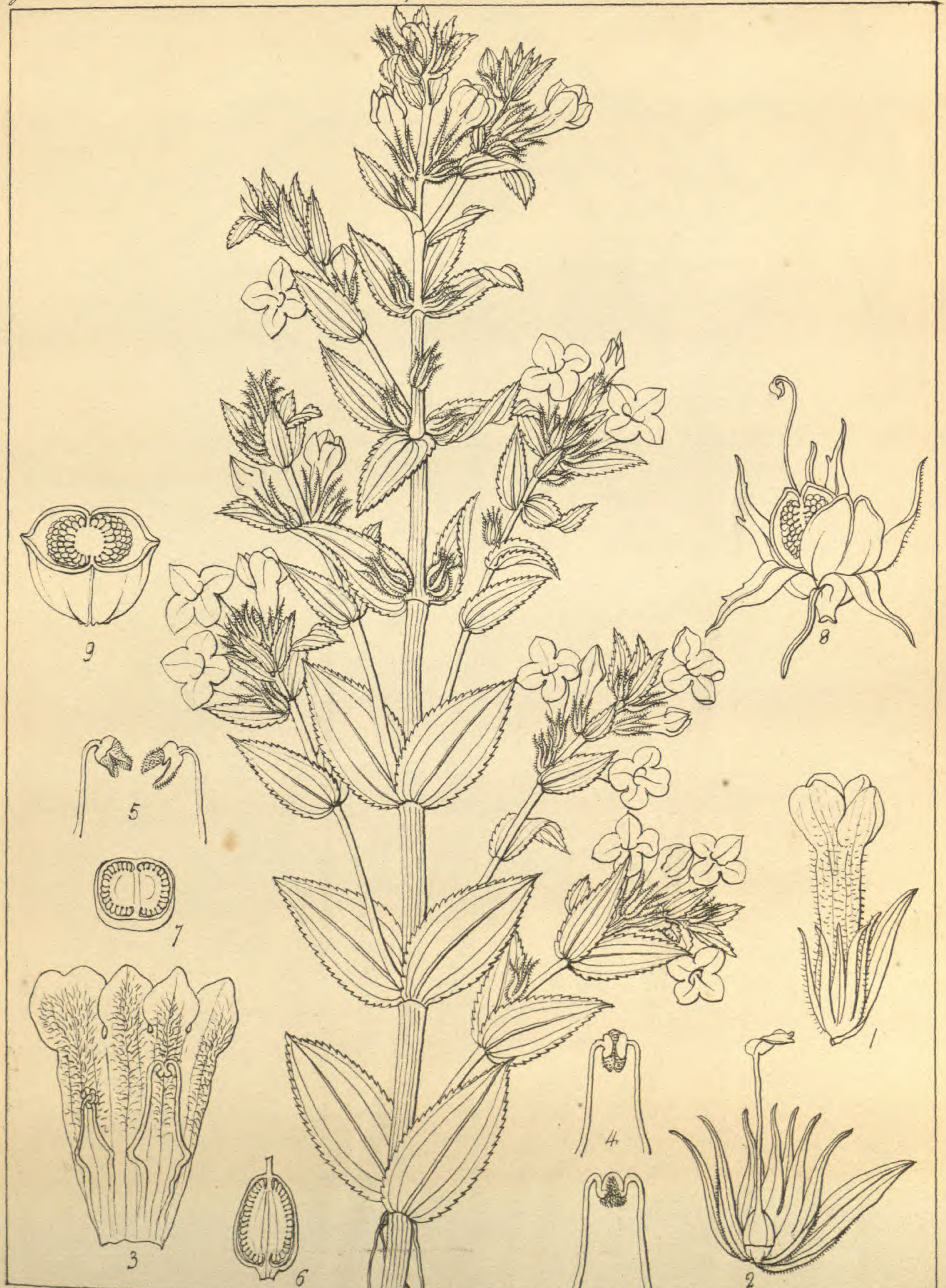
Dumphy, Lith.

Mazus surculosus (Don.)



Govindoo, del. Dumphy, Lith.

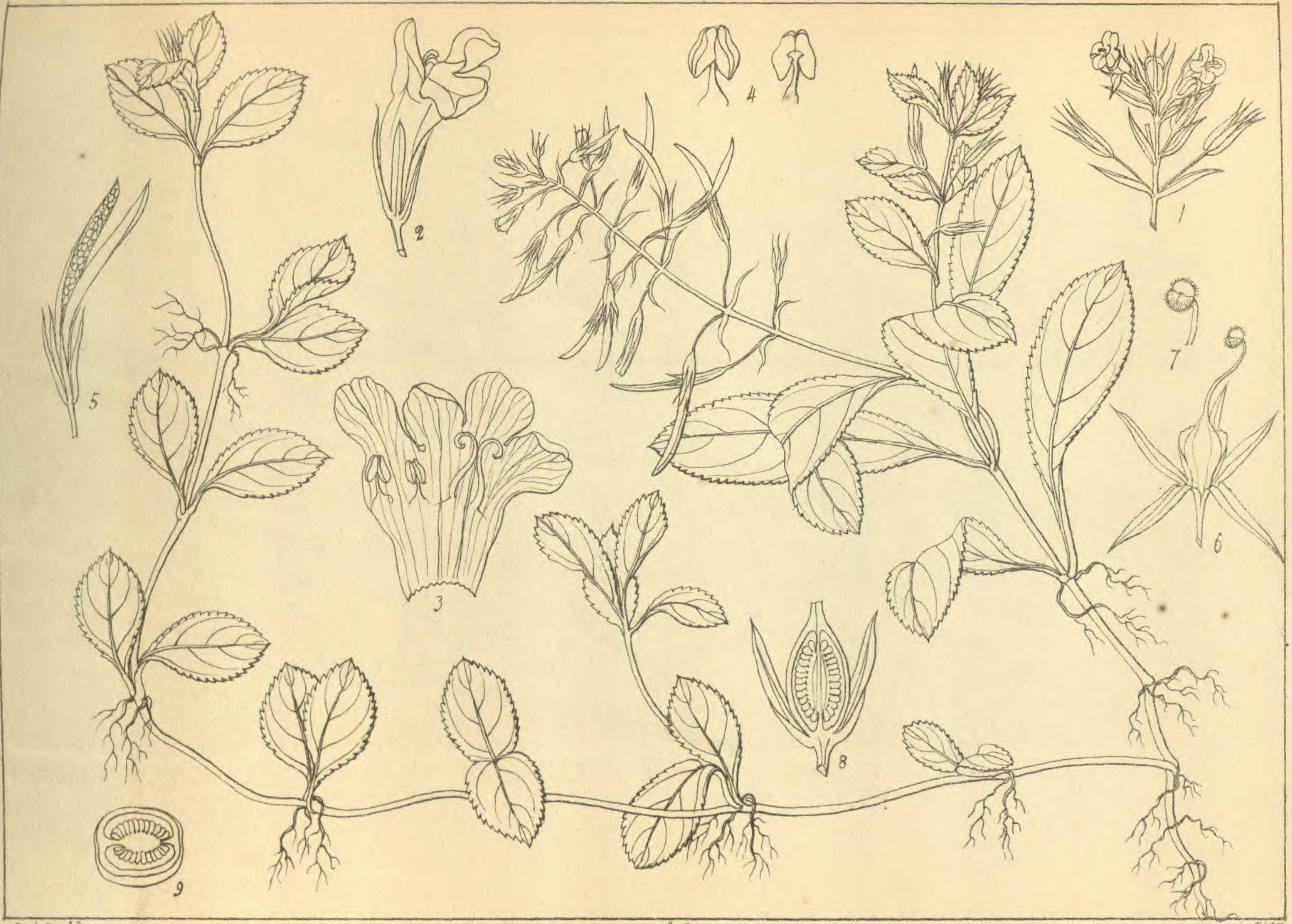
Stimodia viscosa (Roxb.)



Govindoo, del. Dumphy Lith.

Limnophila hypericifolia (Benth)

Artanema sesamoides (Benth)



Govindoo, del. Dumphy Lith.

Bonnaya veronicæfolia (Spreng.)

Govindoo, del. Dumphy, Lith.

Bonnaya verbenæfolia (Spreng)

Govindoo, del. Dumphy, Lith.

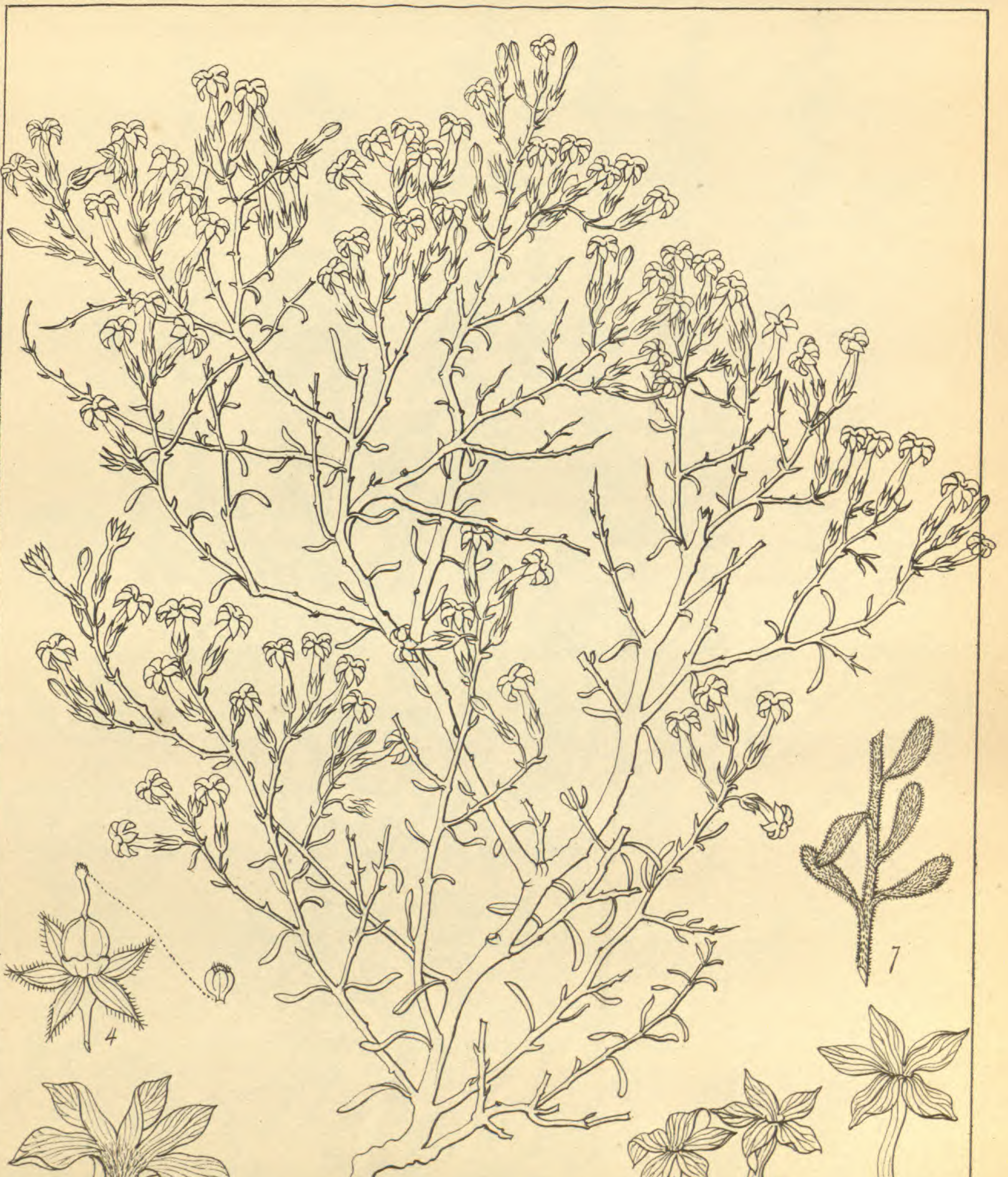
Buchnera hispida (Hamilt.)

Govindoo, del. Dunphy, lith.

Striga orobanchoides (Benth.)

Govindoo, del. Dumphy, Lith.

Rhamphicarpa longiflora (Benth)

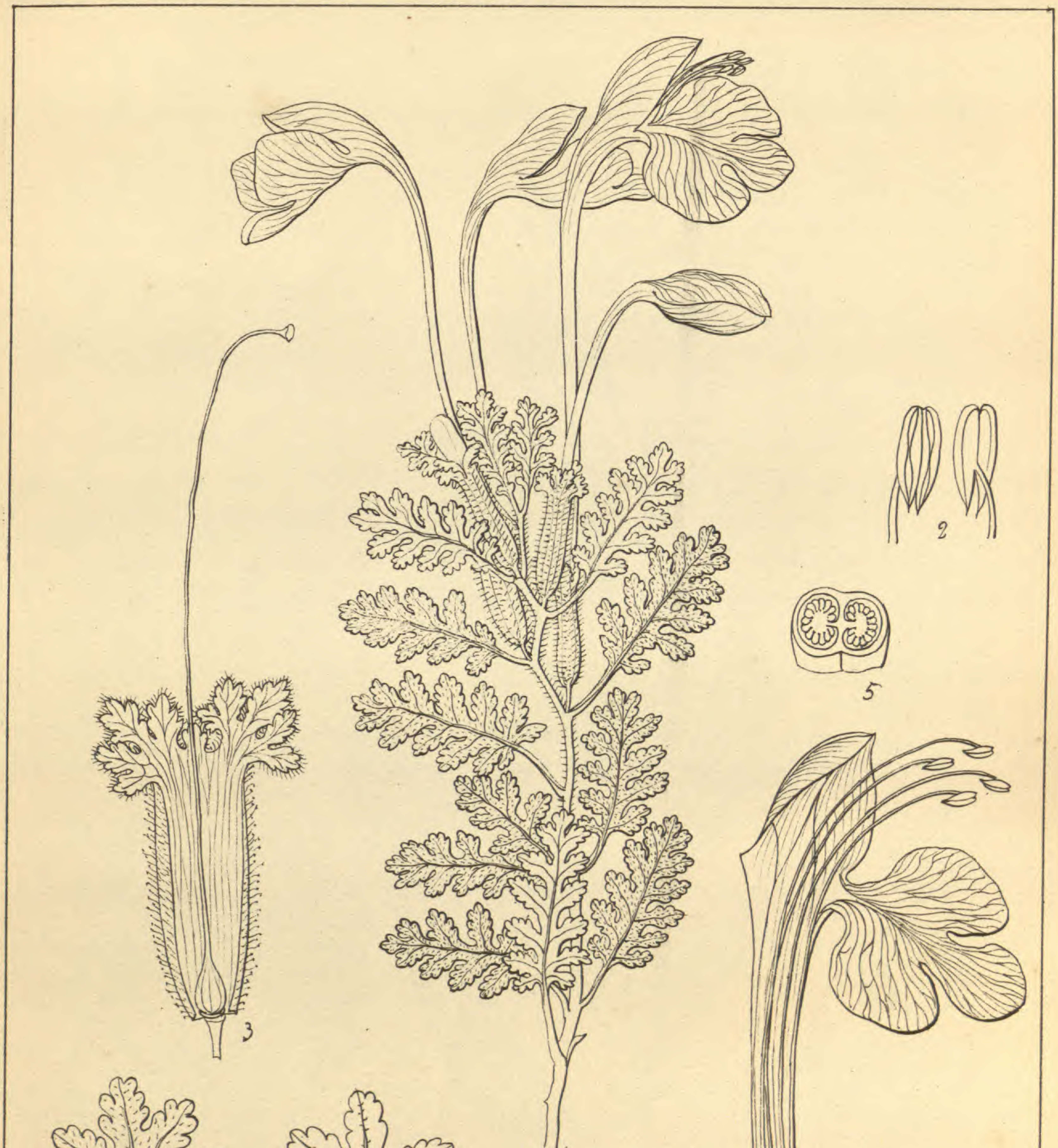


Govindoo, del. Dumphy, Lith.

Campylanthus ramosisimus

Govindoo, del. Dunphy, Lith.

Micrargeria Wightii

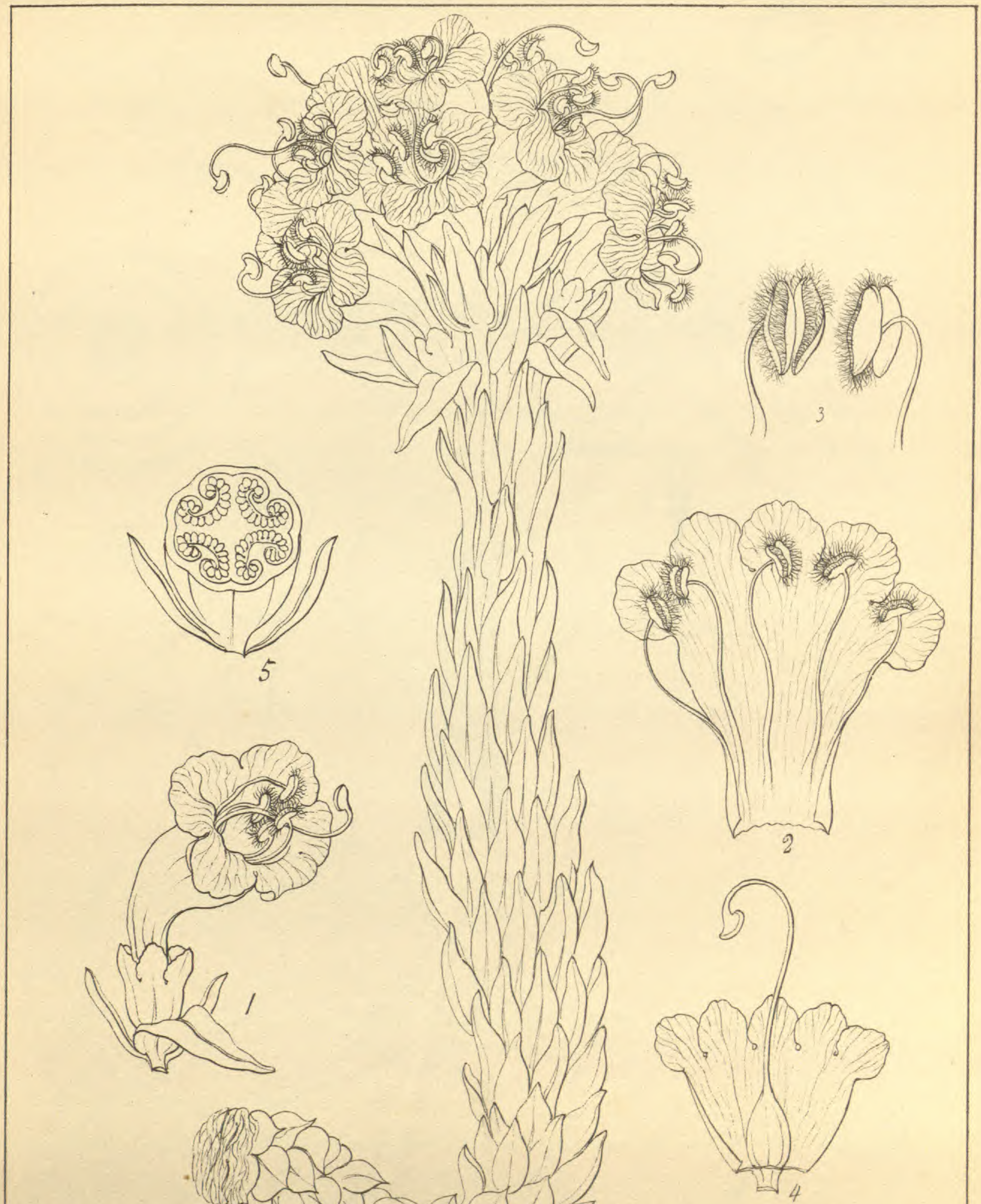


Govindoo, del. Dumphy, Lith.

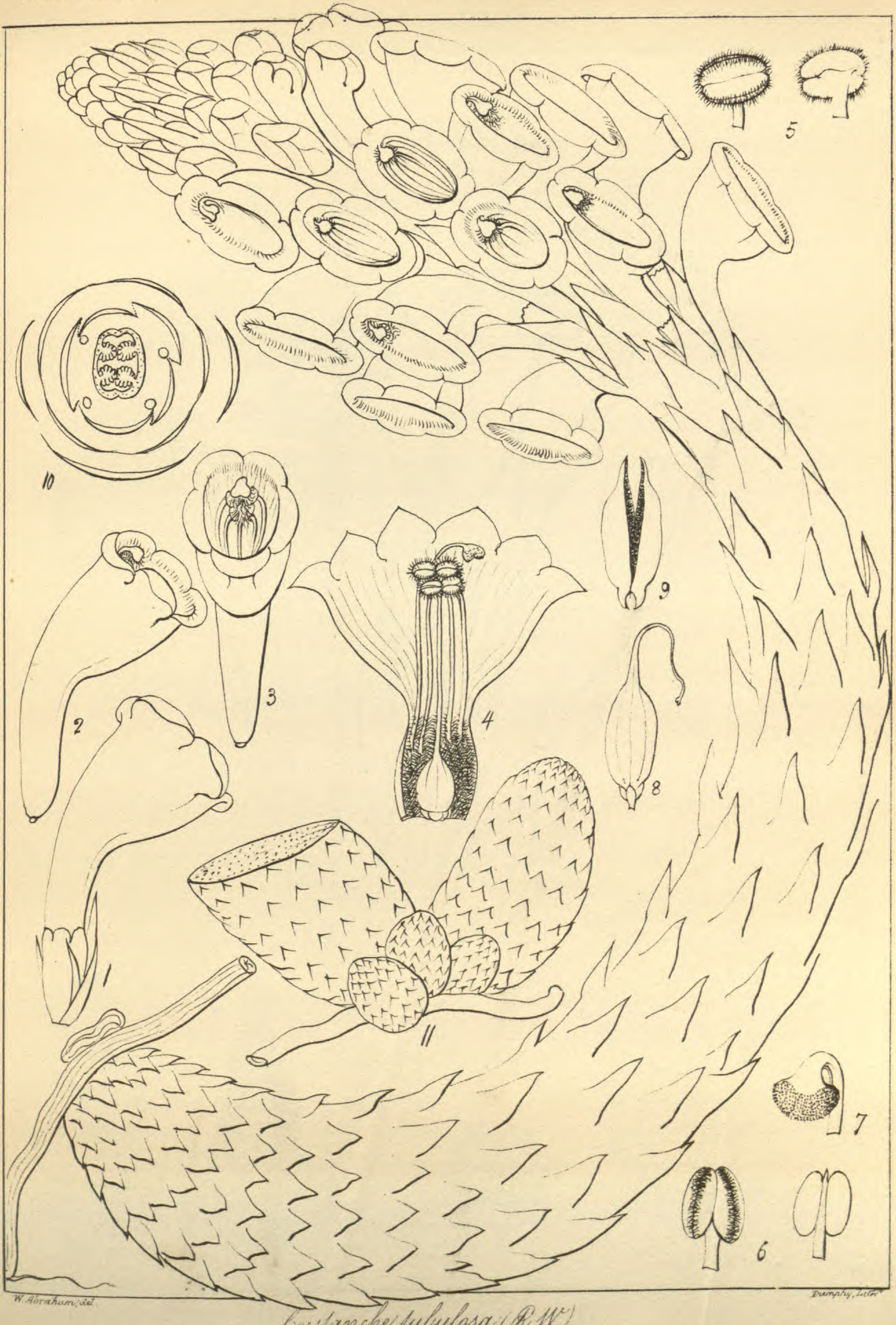
Pedicularis Perrottetii (Benth)

Govindoo, del. Dumphy, Lith.

Pedicularis zeylanica (Benth)



Cystanche lutea (Link)

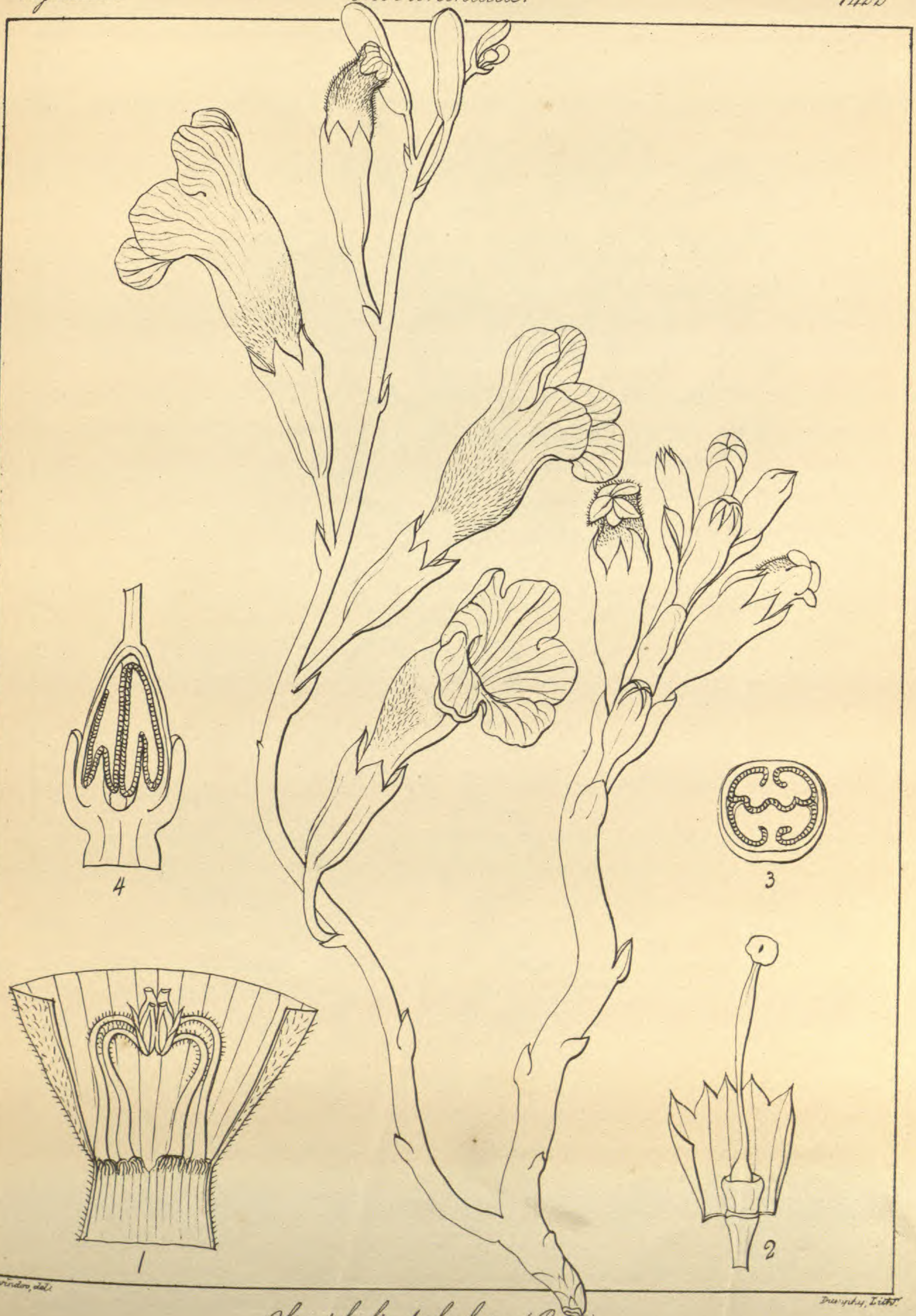


W. Abraham, del. Dunphy, Lith.

Cystanche tubulosa (R.W.)
Phelipæa lutea (Desf. Stock)

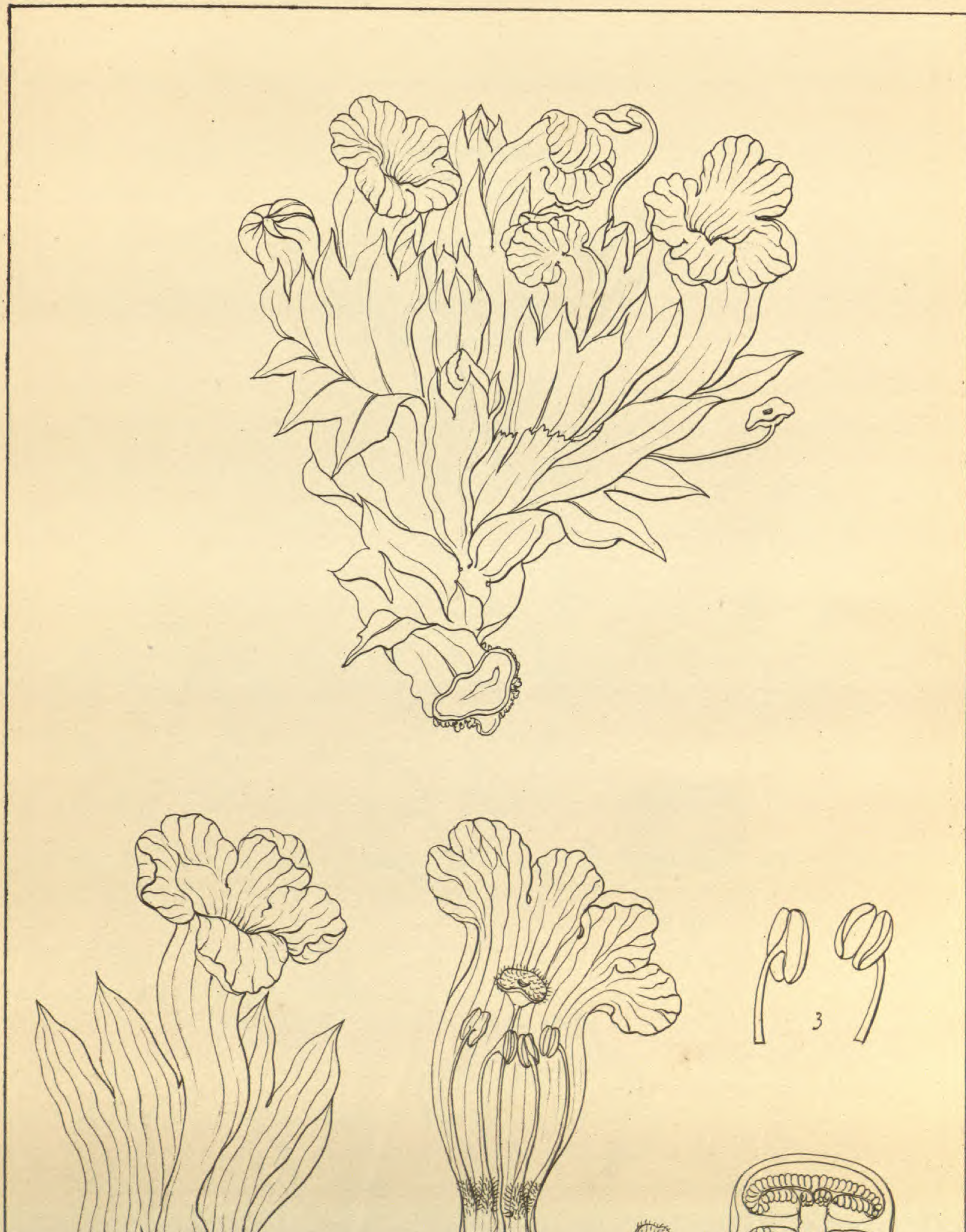
Govindoo, del. Dunphy, Lith.

Æginetia pedunculata (Wall)



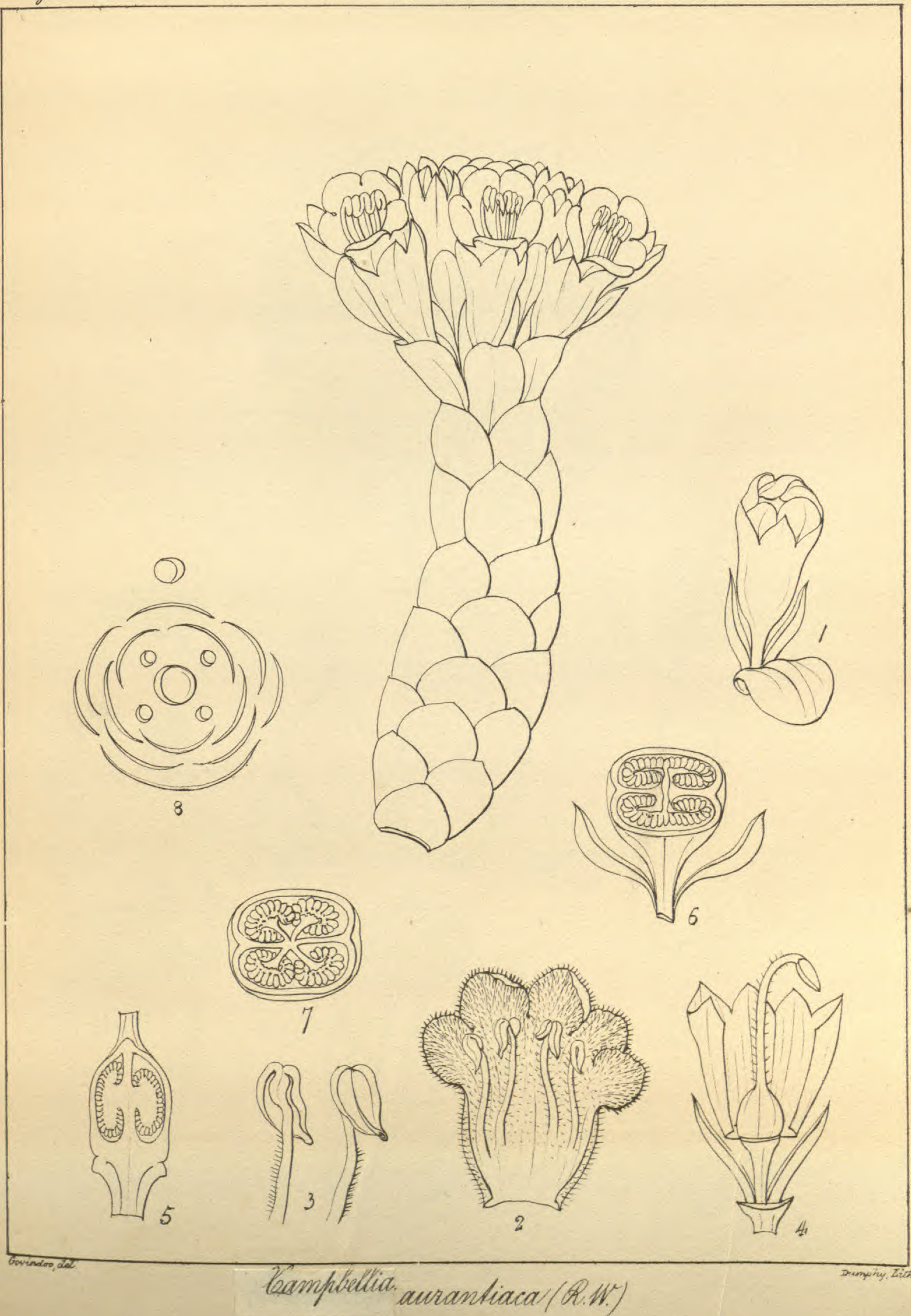
Govindoo, del. Dumphy, Lith.

Oligopholis tubulosa (R.W.)



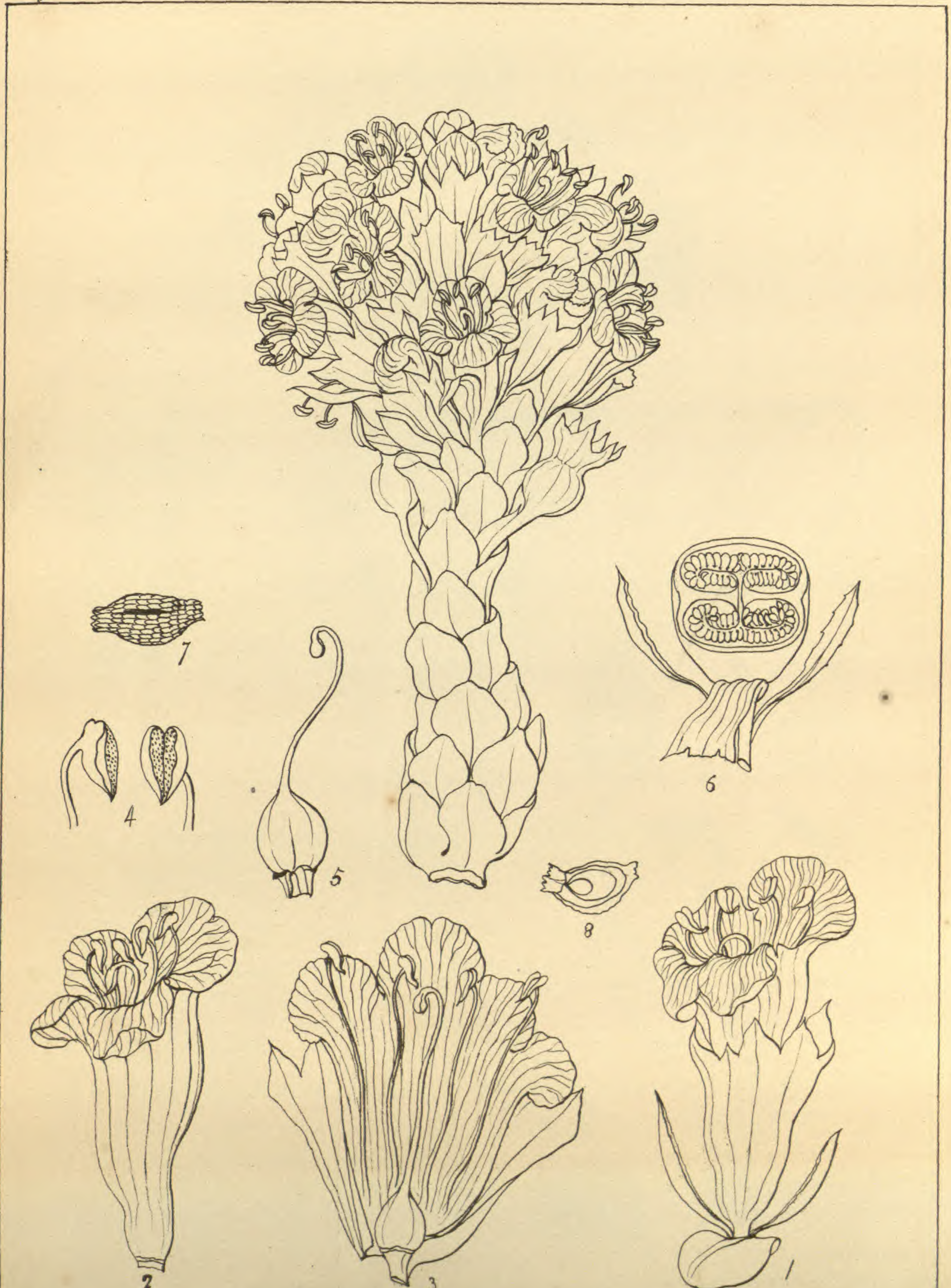
Govindoo, del. Dumphy, Lith.

Christisonia subacaulis ? (Bentham)



Govindoo, del. Dunphy, Lith^r

Campbellia aurantiaca (R.W.)

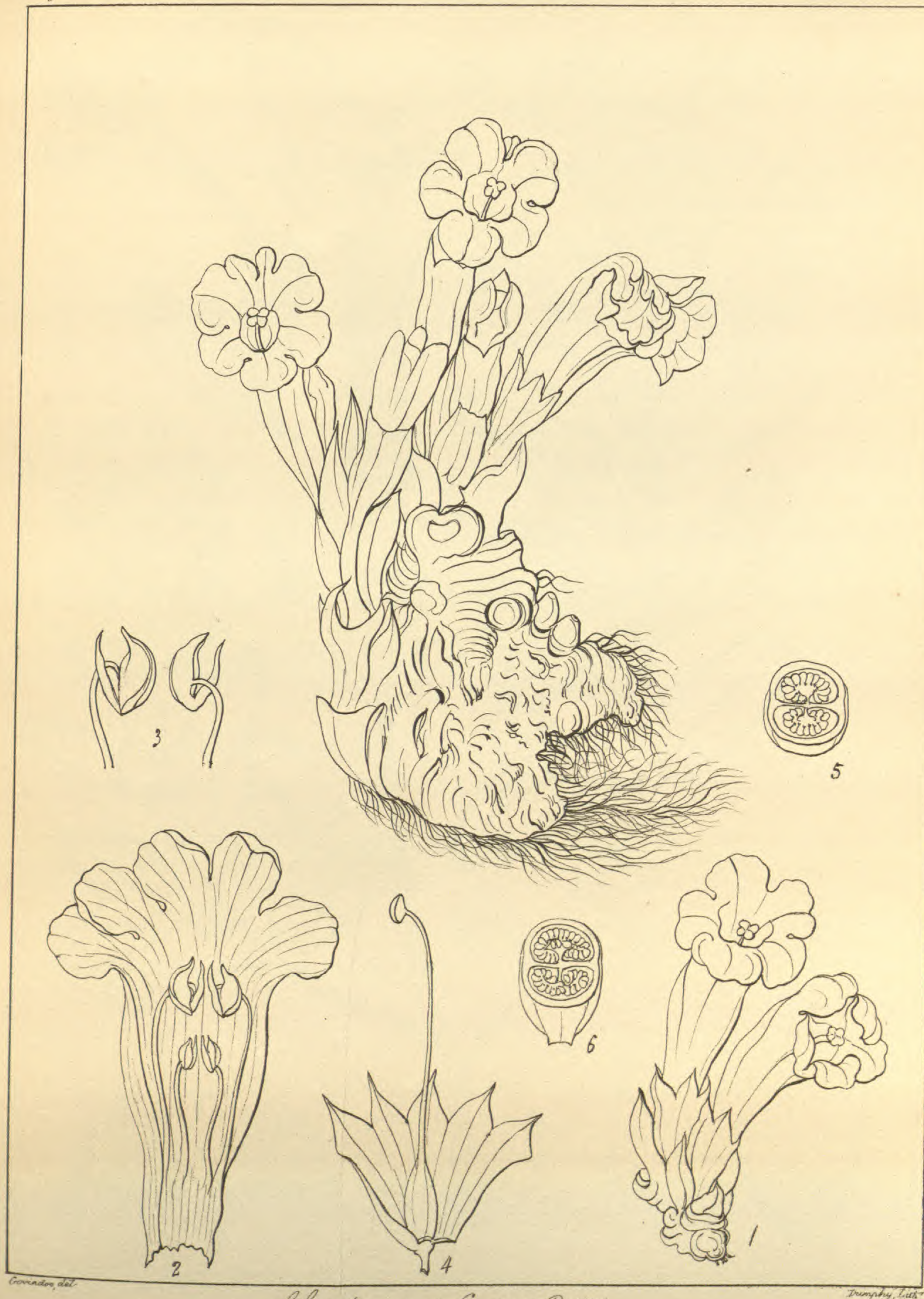


Govindoo, del. Dumphy, Lith.

Campbellia cytenoides (R.W.)

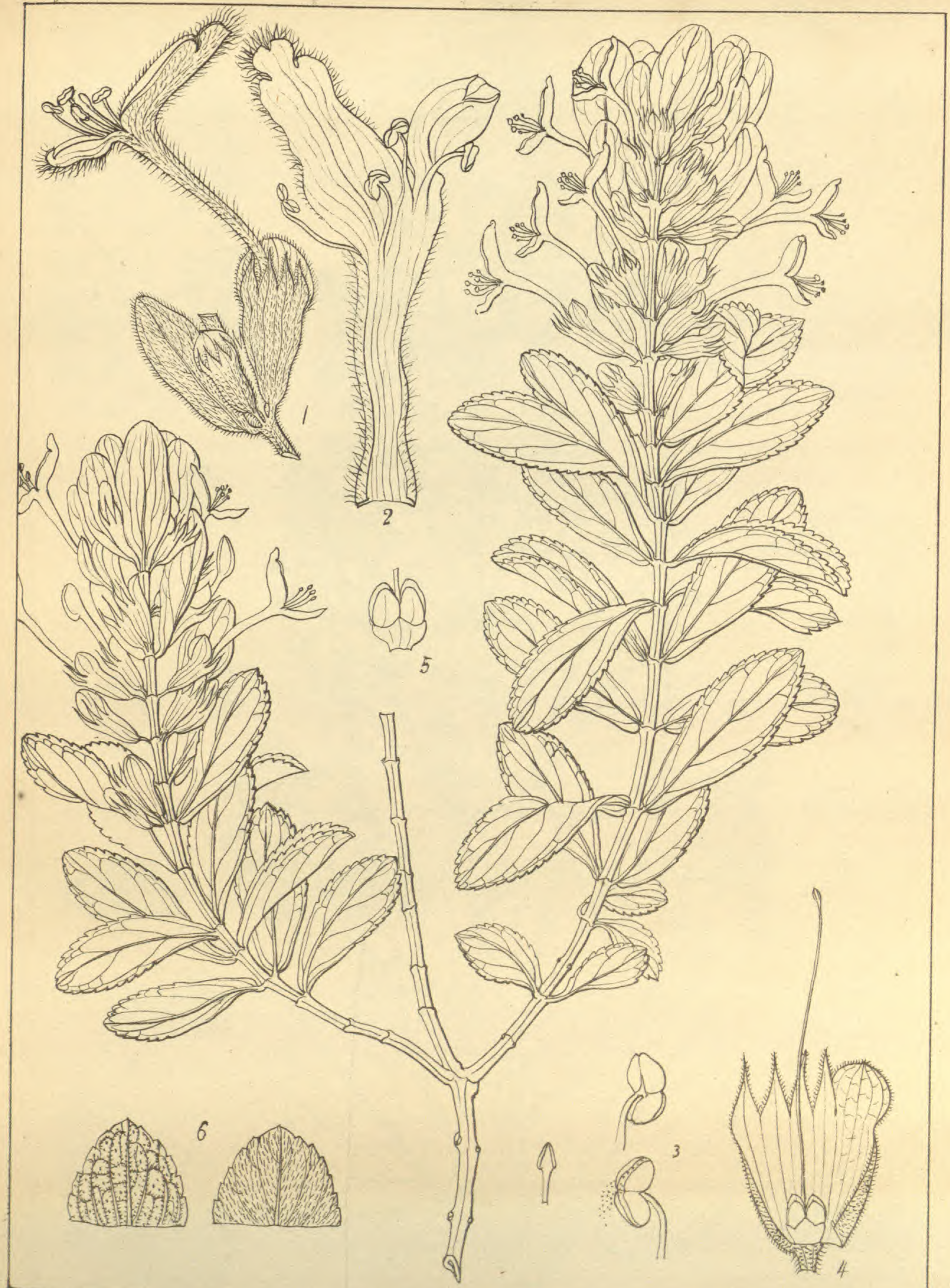
Govindoo, del. Dumphy, Lith.

Christisonia calcarata (R.W.)



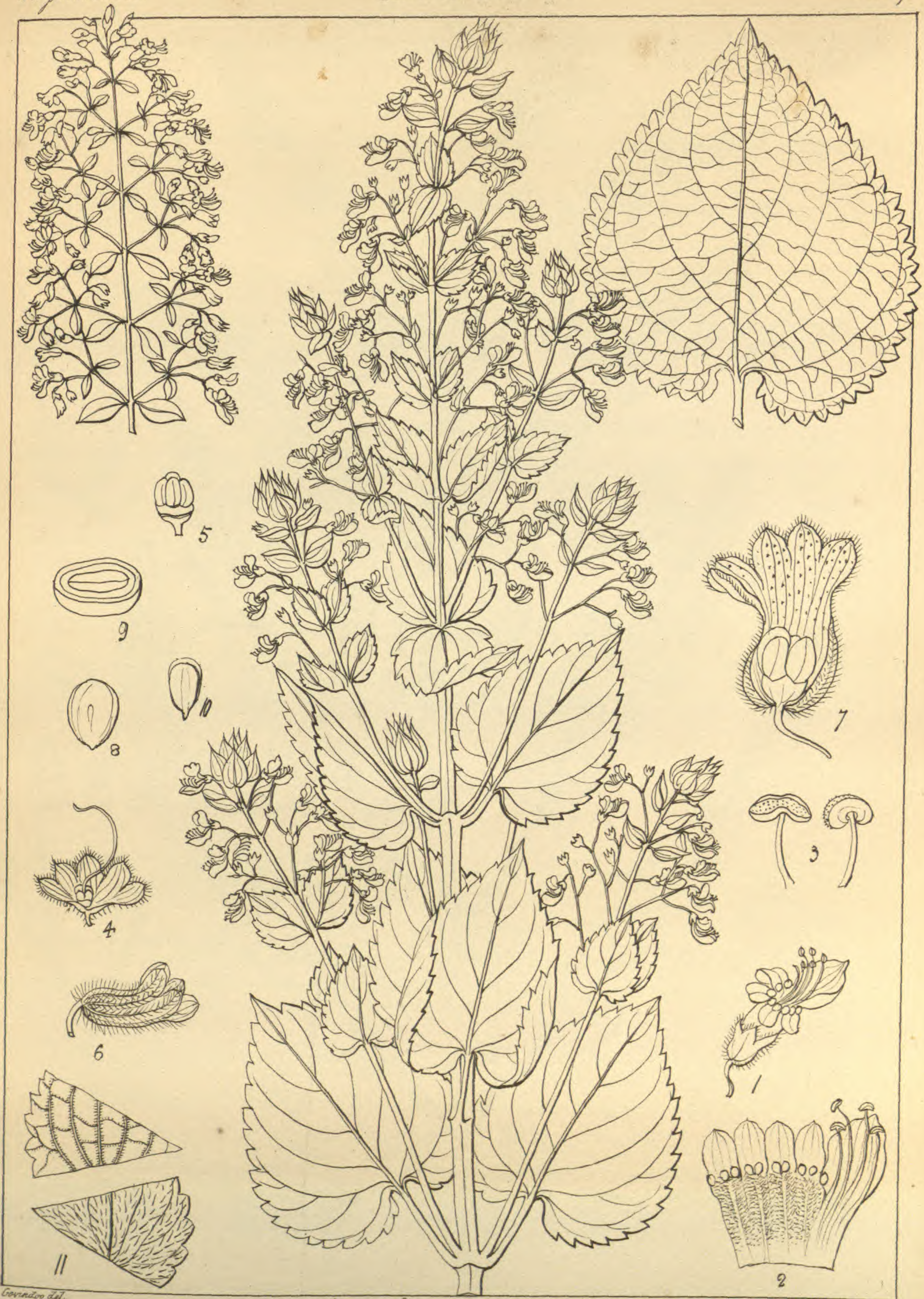
Govindoo, del. Dunphy, Lith.

Christisonia Lawii (R.W.)



Govindoo, del. Dumphy, Lith.

Orthosiphon bracteatus (R.W.)



Govindoo, Del. Dumphy, Lith.

Pleibranthus Wightii (Benth)

Gorandoo, del. Dumphy, Lith.

Pleibianthus Macraei (Benth)

Govindoo, del.   Dunphy, Lith.

Coleus spicatus (Benth.)

Govindoo, del. Dumphy, Lith.

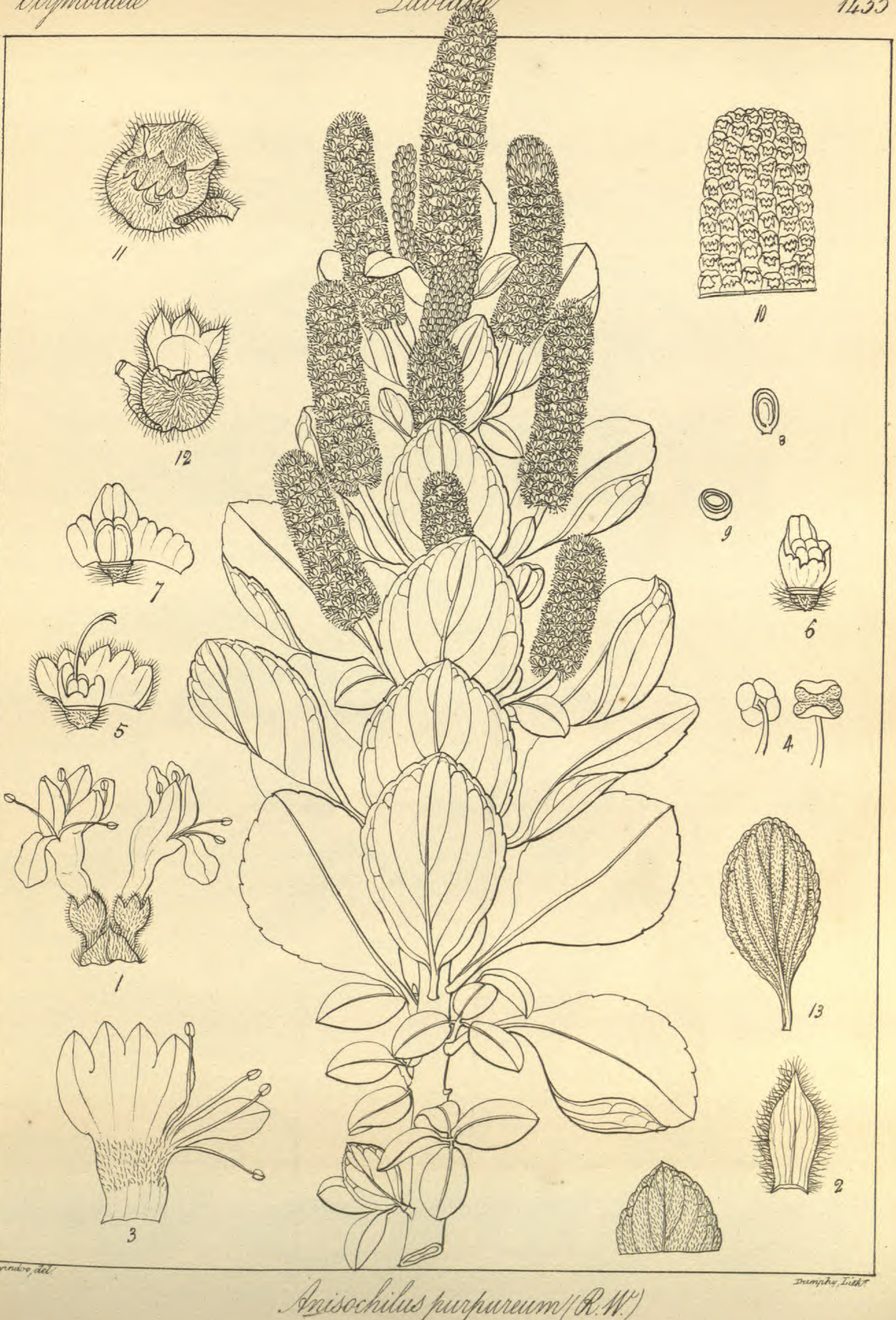
Coleus barbatus (Benth.)

Govindoo, del. Dumphy, Lith.

Coleus Wightii (Benth)

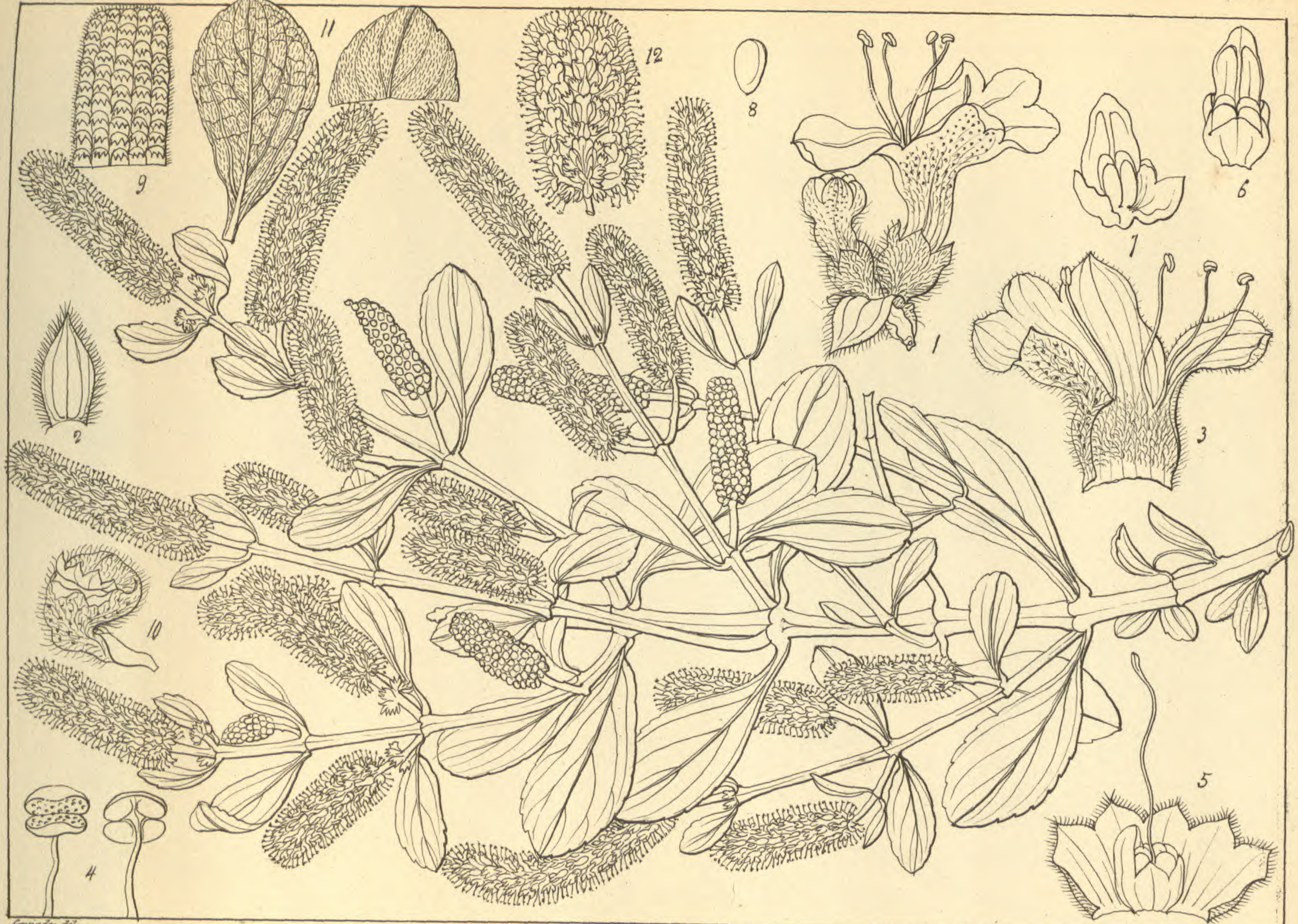
Govindoo, del. Dunphy, Lith.

Anisochilus dysophylloides (Benth)



Govindoo, del. Dumphy, Lith.

Anisochilus purpureum (R.W.)



Govindoo, del. Dunphy, Lith.

Anischilus albidum (R.W.)

Govindoo, del. Dumphy, Lith.

Anisochilus suffruticosum (R.W.)

Govindoo, del. Dumphy, lith.

Lavandula Burmanni (Benth)

Govindoo, del. Dumphy, Lith.

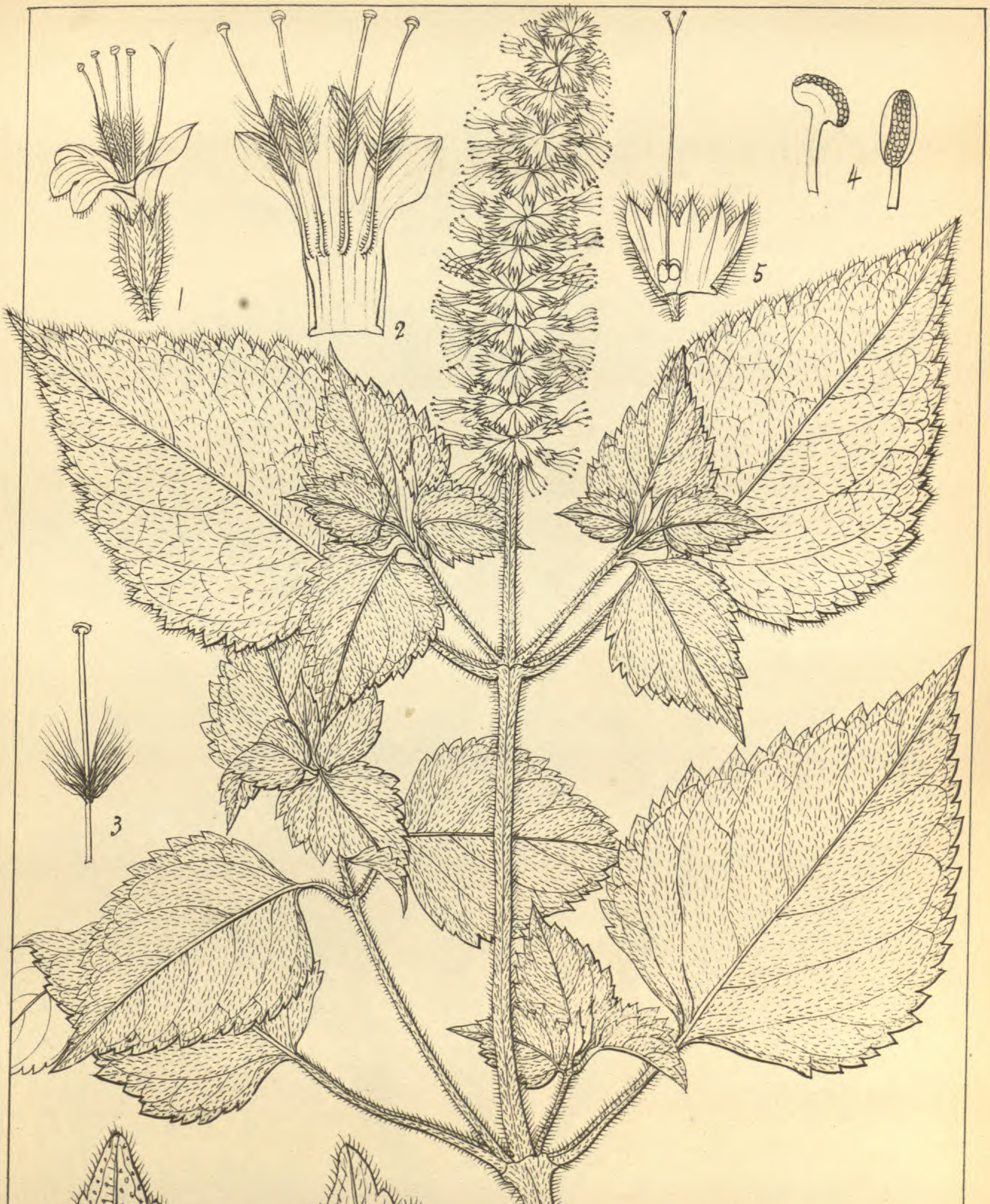
Lavandula Lawii (R.W.)

Govindoo, del. Dumphy, Lith.

Pogostemon Heyneanum (Benth.)

Govindoo, del. Dumphy, Lith.

Pogostemon rotundatum (Benth.)

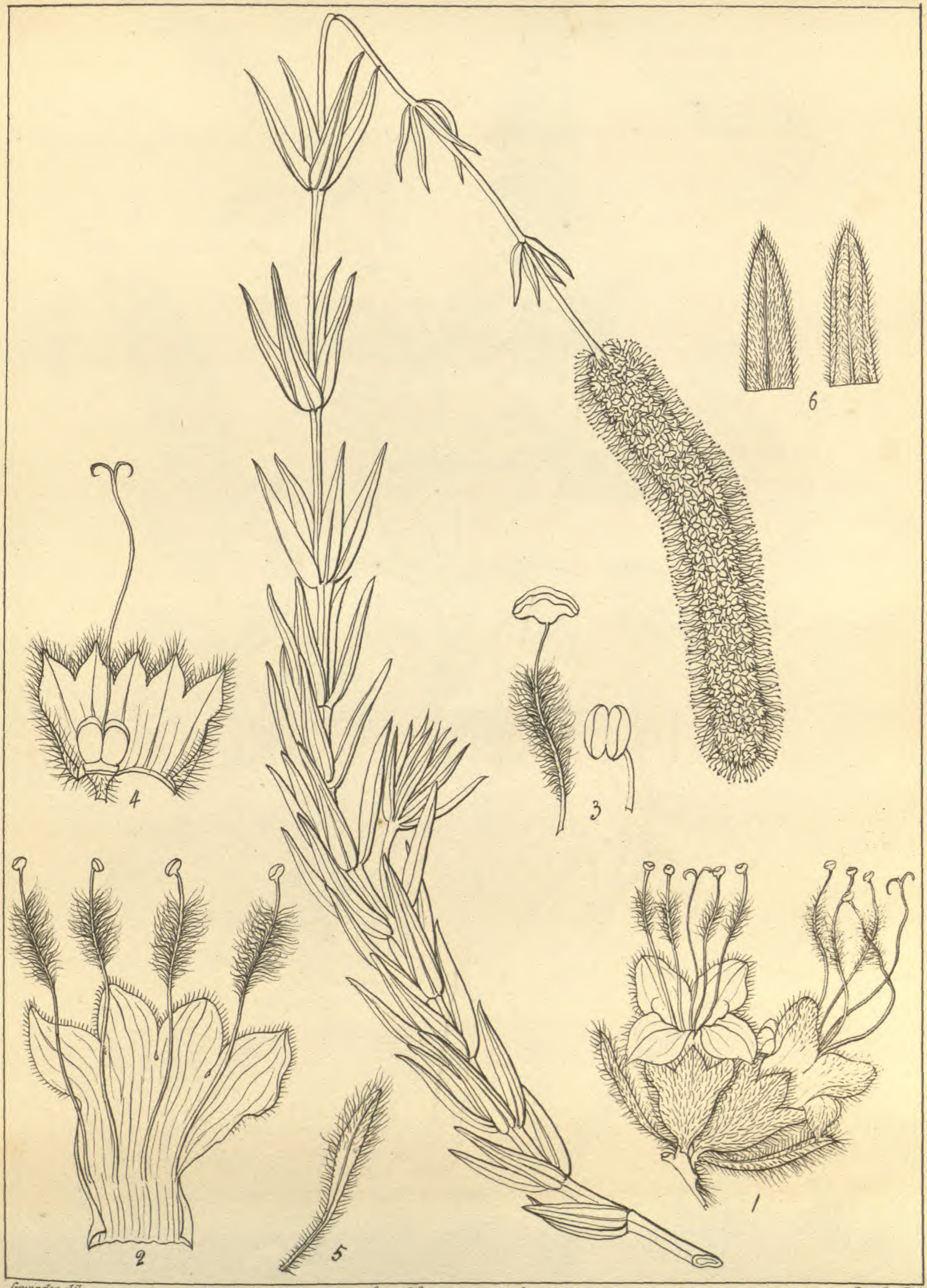


Govindoo, del. Dumphy, Lith.

Pogostemon hirsutum (Benth)

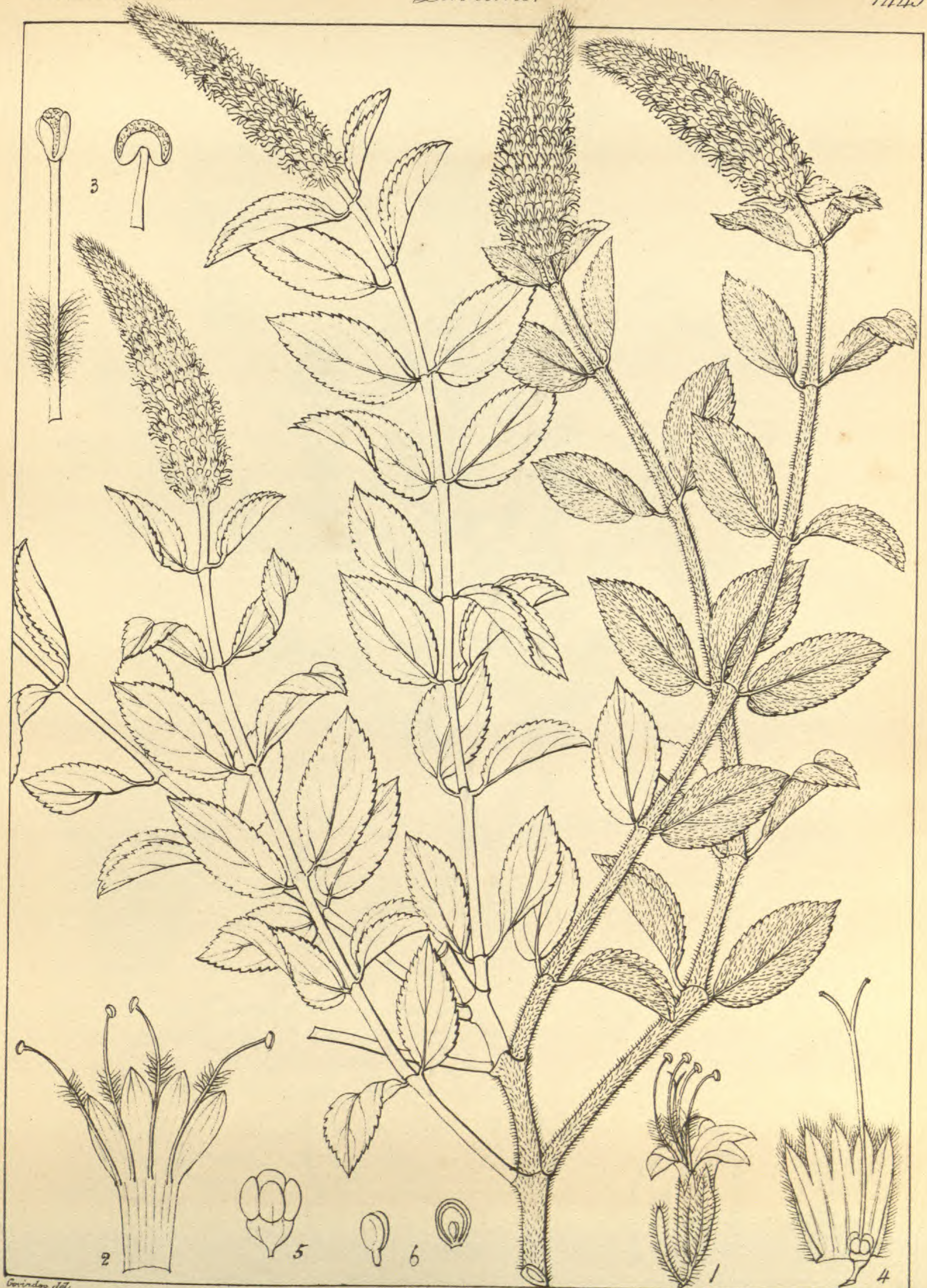
Govindoo, del. Dumphy, Lith.

Pogostemon speciosum (Benth)



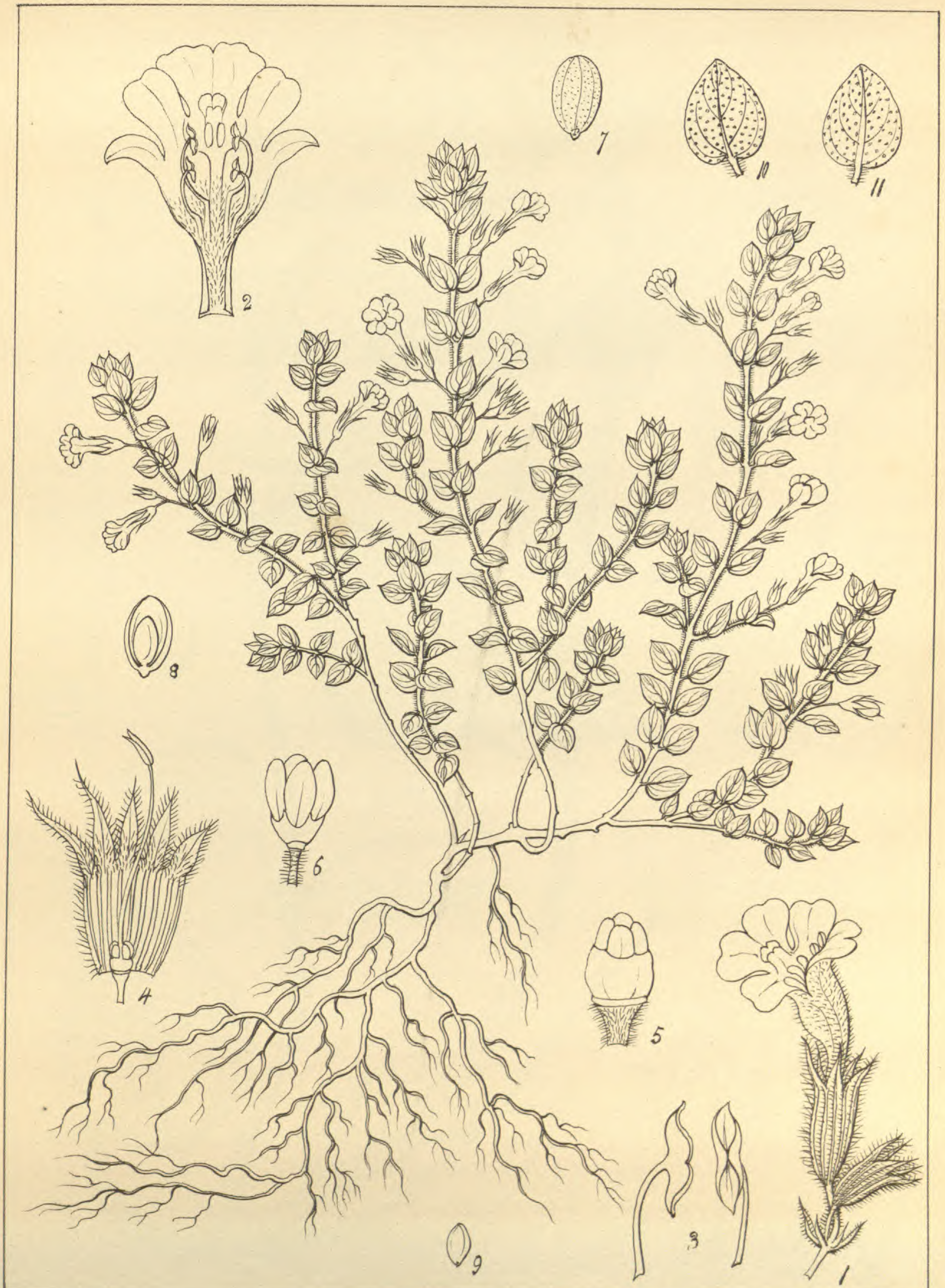
Govindoo, del. Dunphy, Lith.

Dysophylla tetraphylla (R.W.)



Govindoo, del. Dumphy, Lith.

Dysophylla auricularia (Blume)



Govindoo, del. Dunphy, Lithr.

Micromeria biflora (Benth)

Govindoo, del. Dumphy, Lithr

Melissa umbrosa (Bieber)

Govindoo, del. Dumphy, Lith.

Prunella vulgaris (Linn)

Govindoo del. Dumphy, Lith.

Scutellaria rivularis (Wall)

Govindoo, del. Dumphy, Lith.

Leucus urticafolia (R. Br.)

Govindoo, del. Dumphy, Lith.

Leucas lanceæfolia (Desf)

Govindoo, del. Dumphy, Lith.

Leucas ternifolia (Desf.)

Gnadas, del. Dumphy, Lith.

Leucas suffruticosa

Govindoo, del. Dunphy, Lith.

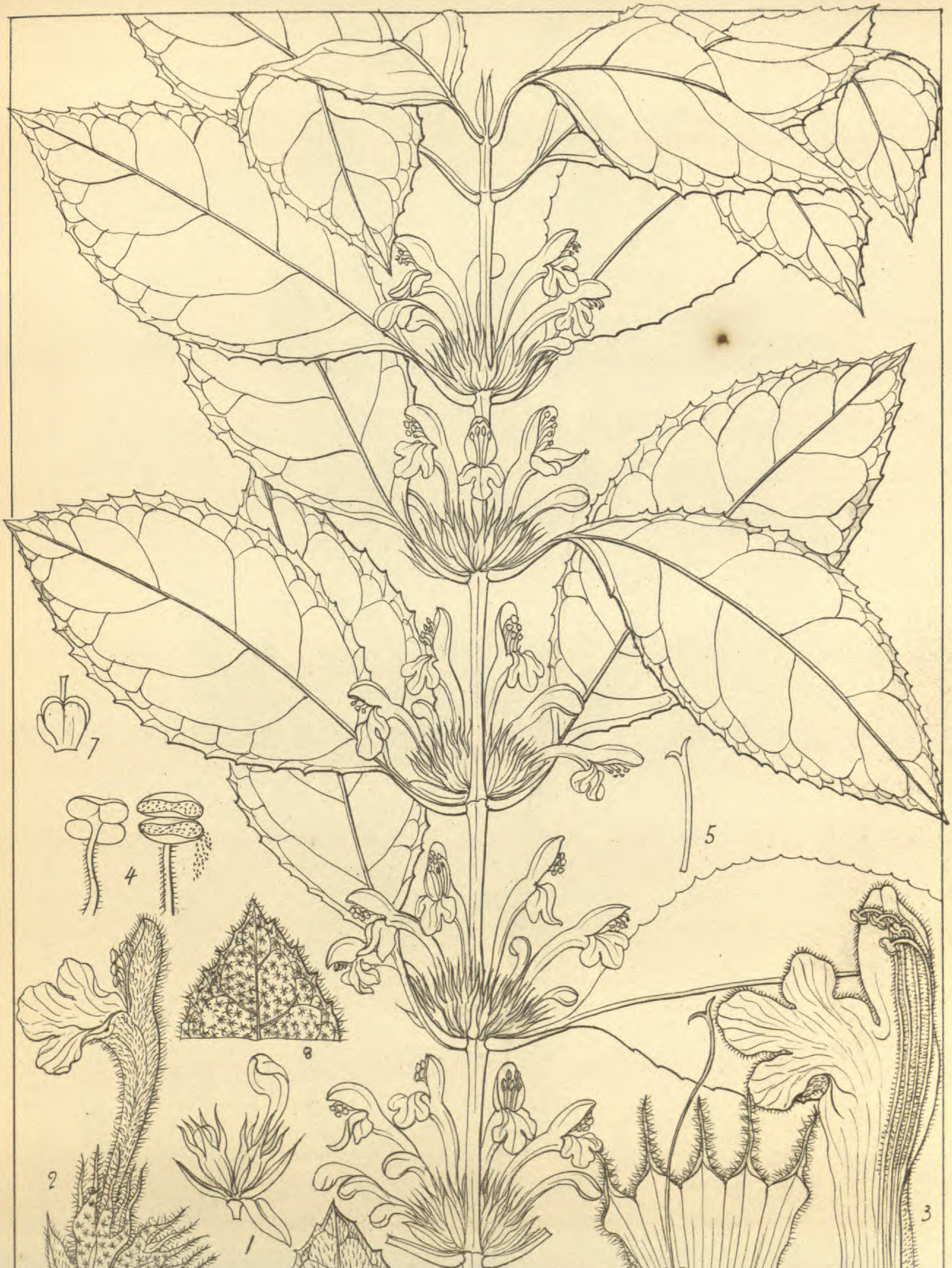
Leucas rosmarinifolia (Benth)

Govindoo, del. Dumphy, Lith.

Gomphostemma Heyneanum (Wall)

Govindoo, del. Dumphy, Lith.

Gomphostemma Heyneanum (Wall)



Govindoo, del. Dunphy, Lith.

Gomphostemma oblongum (Wall)

Govindoo, del. Dumphy, Lith.

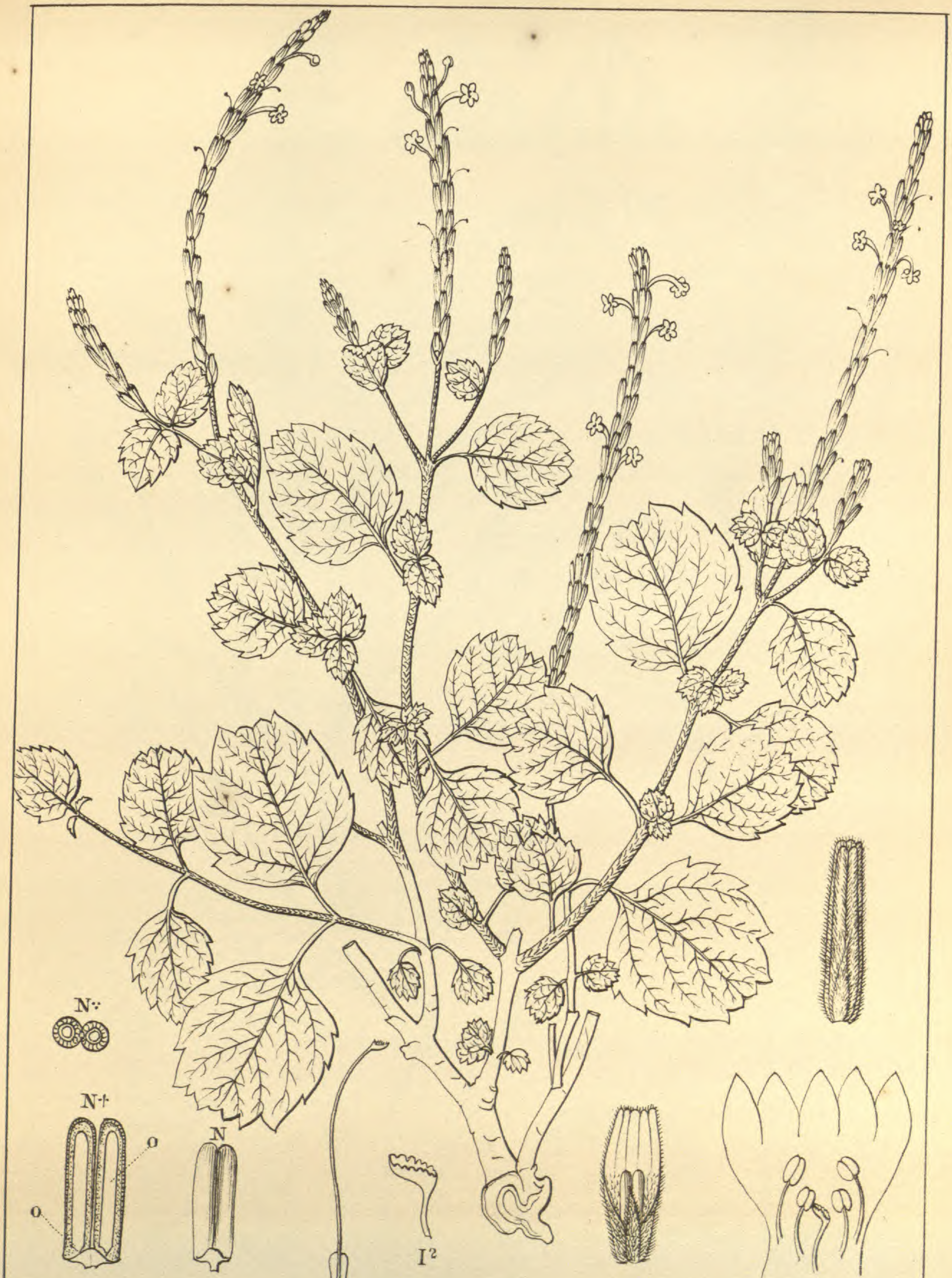
Teucrium (S) tomentosum (Heyne)

W. Abraham, del. Dunphy, Lith.

Antirrhinum glaucum (I.E.S.)

Govindoo, del. Dumphy, Lith.

Peronema canescens (Jack)



W. Abraham, del.

Dumphy, Lith.

Bouchea marrubifolia (Schauer.)

Govindoo, del. Dumphy, Lith.

Bouchea Hyderabadensis (Walp)

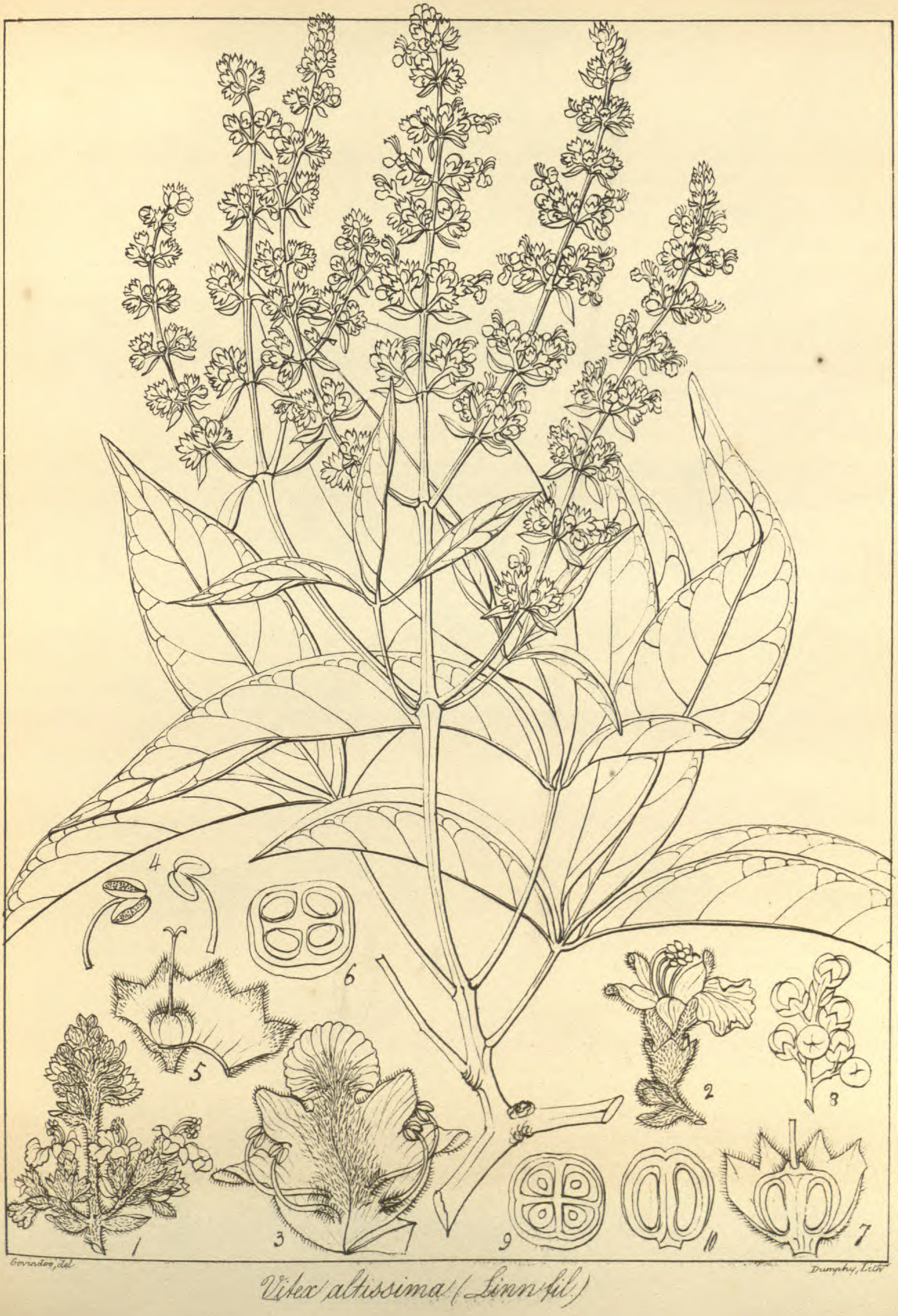
Lippia nodiflora (Rich.)

Govindoo, del. Dunphy, Lith.

Lantana Indica (Roxb)

Govindoo, Del. Dumphy, Lith.

Vitex arborea (Roxb.)



Govindoo, del. Dumphy, Lith.

Vitex altissima (Linn. fil.)

Govindoo, del. Dumphy, Lith.

Wallrothia leucoxylon (Roxb.)

Govindoo, del. Dumphy, Lith.

Premna tomentosa (Willd)

Govindoo, del. Dumphy, Lith.

Premna integrifolia (Linn)

Govindoo, del. Dumphy, Lith.

Gmelina arborea (Roxb.)

Govindoo, del. Dumphy, Lith.

Clerodendron infortunatum (Linn.)

Govindoo, del. Dunphy, Lith.

Clerodendron serratum (Spr.)

Govindoo, del. Dunphy, Lith.

Clerodendron phlomoides (Linn)

Govindoo, del. Dumphy, Lith.

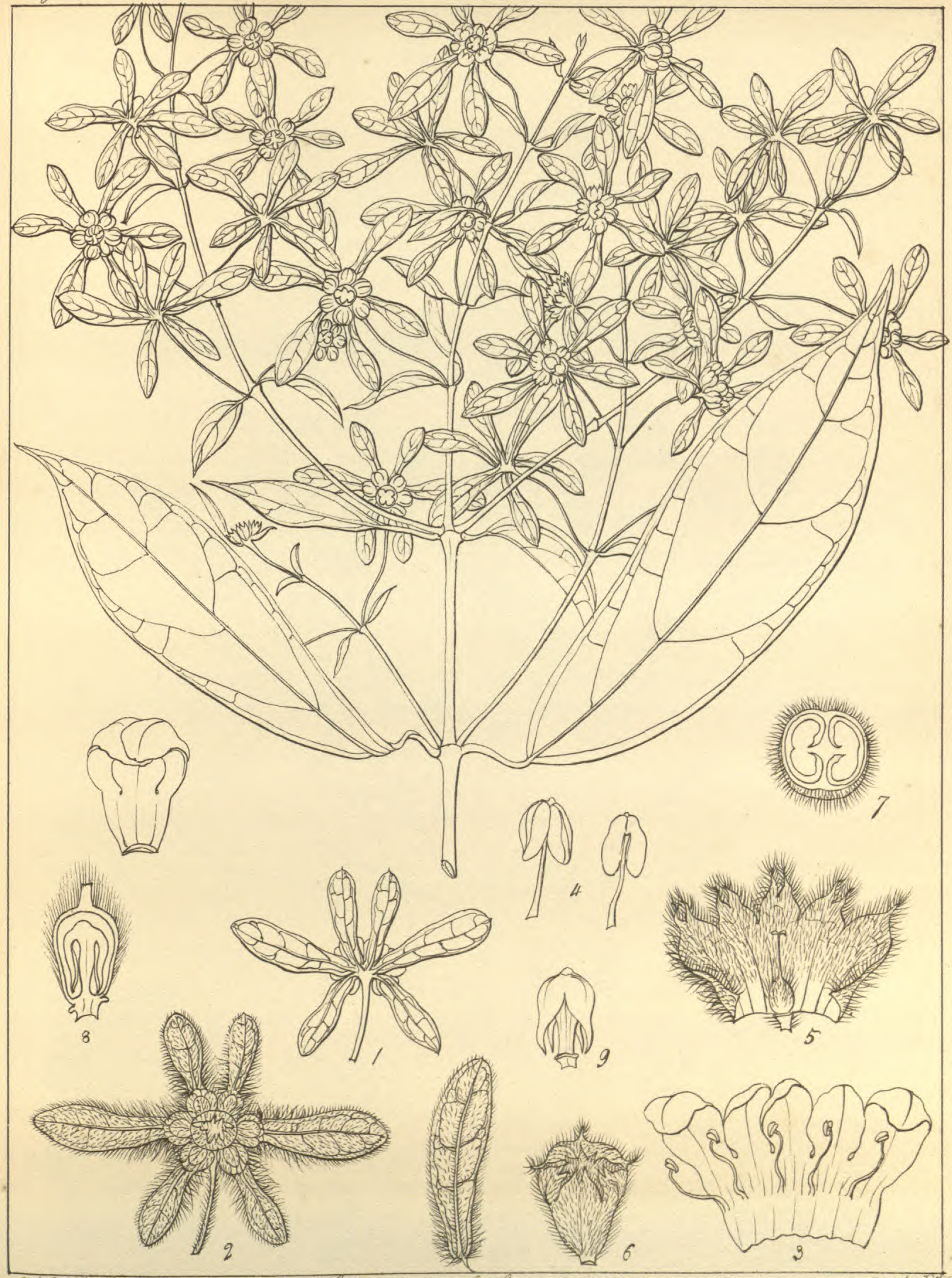
Sphenodesme ferruginea (R.W.)

Govindoo, del. Dumphy, Lith.

Sphenodesme pentandra (R.W.)
Roscoea (Roxb.) congea (Wall. R.W.)

Govindoo, del. Dunphy, Lith.

Sphenodesme acuminata (R.W.)



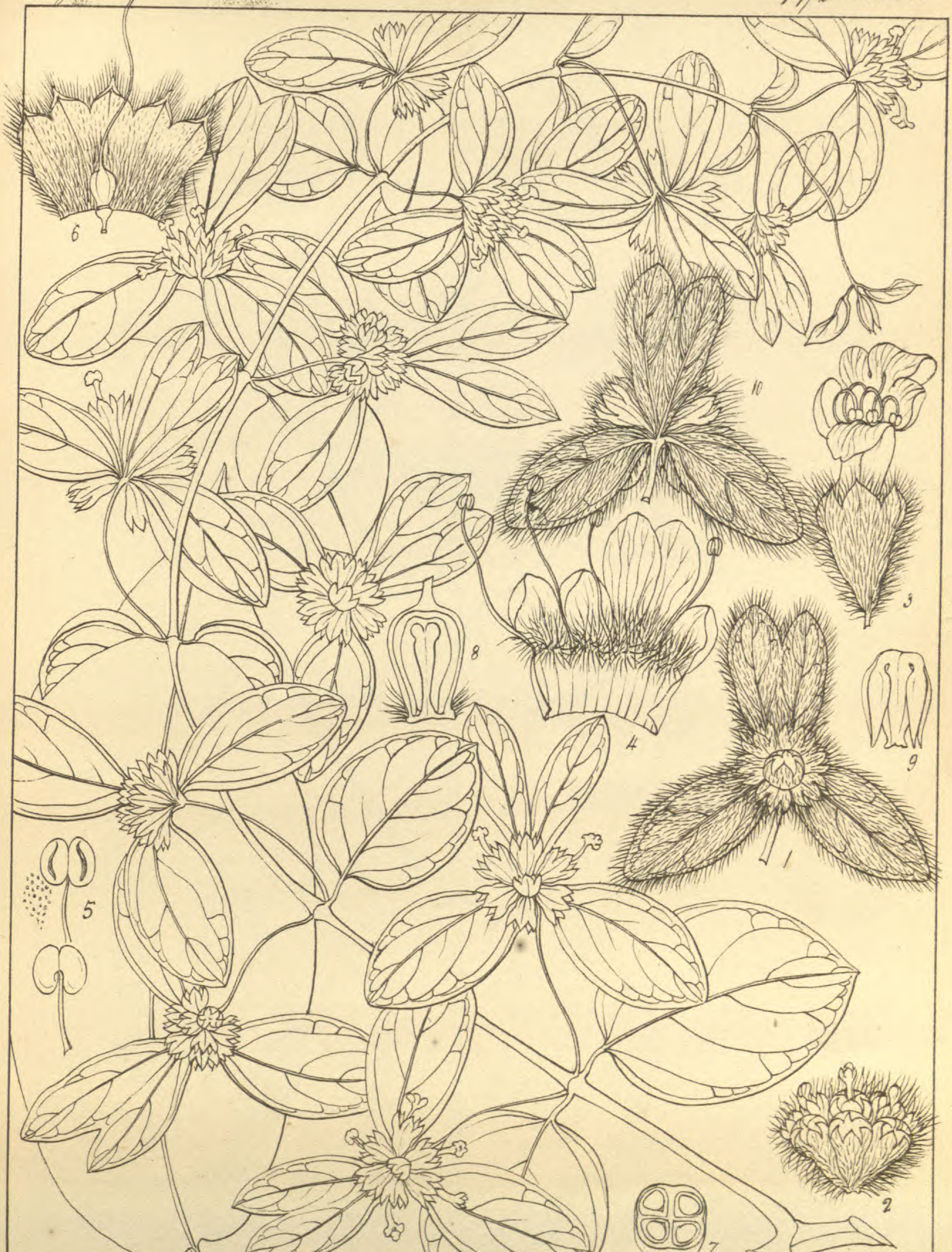
Govindoo, del. Dumphy, Lith.

Sphenodesme Jackiana (R.W.)
Congea Jackiana (Wall.)

Govindoo, del. Dumphy, Lith.

Sphenadesme triflora (R. W.)

A. Congea azurea (Wall.) B. C. Villosa (Roxb.)

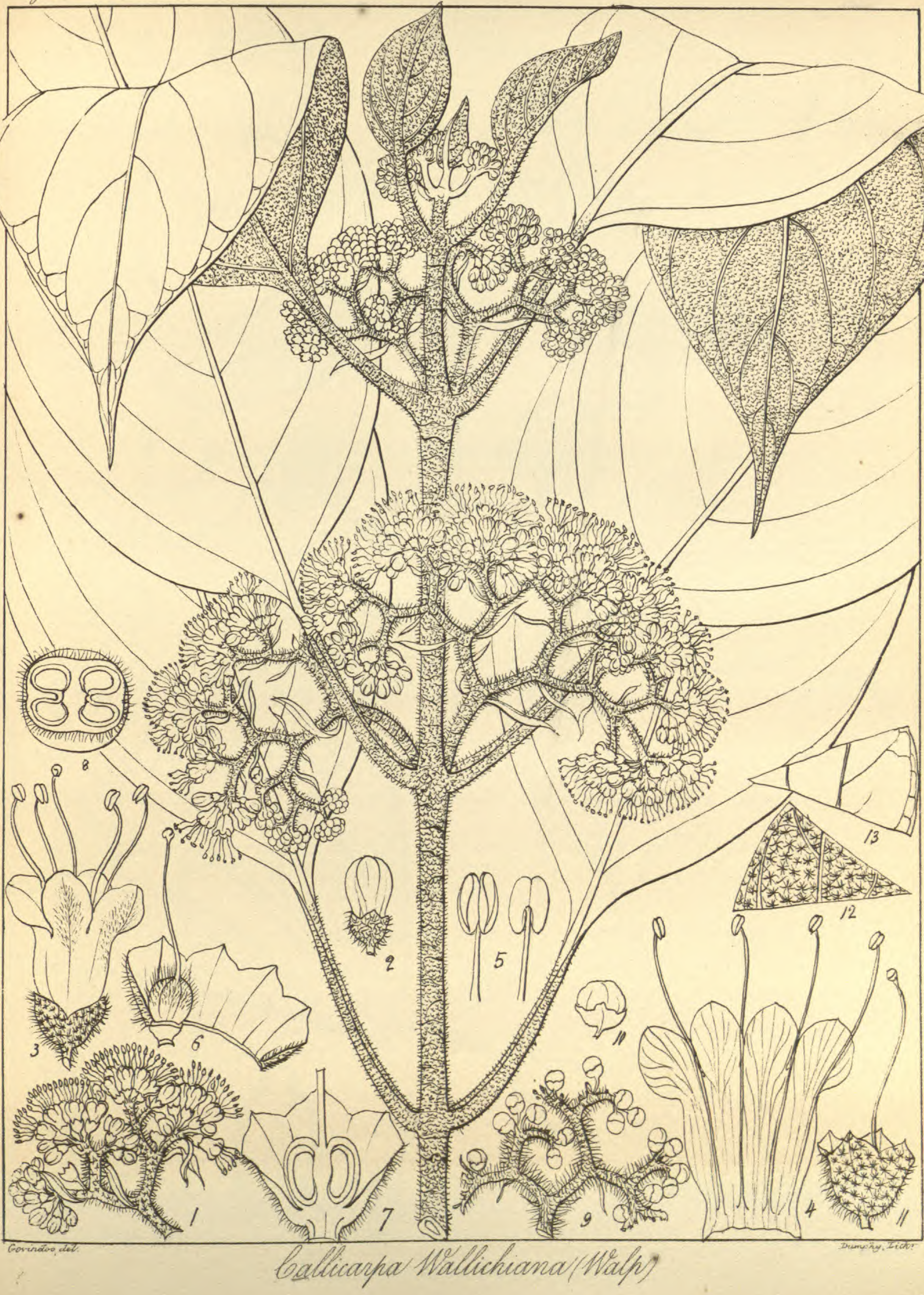


Govindoo, del. Dunphy, Lith.

Congea tomentosa (Roxb.)

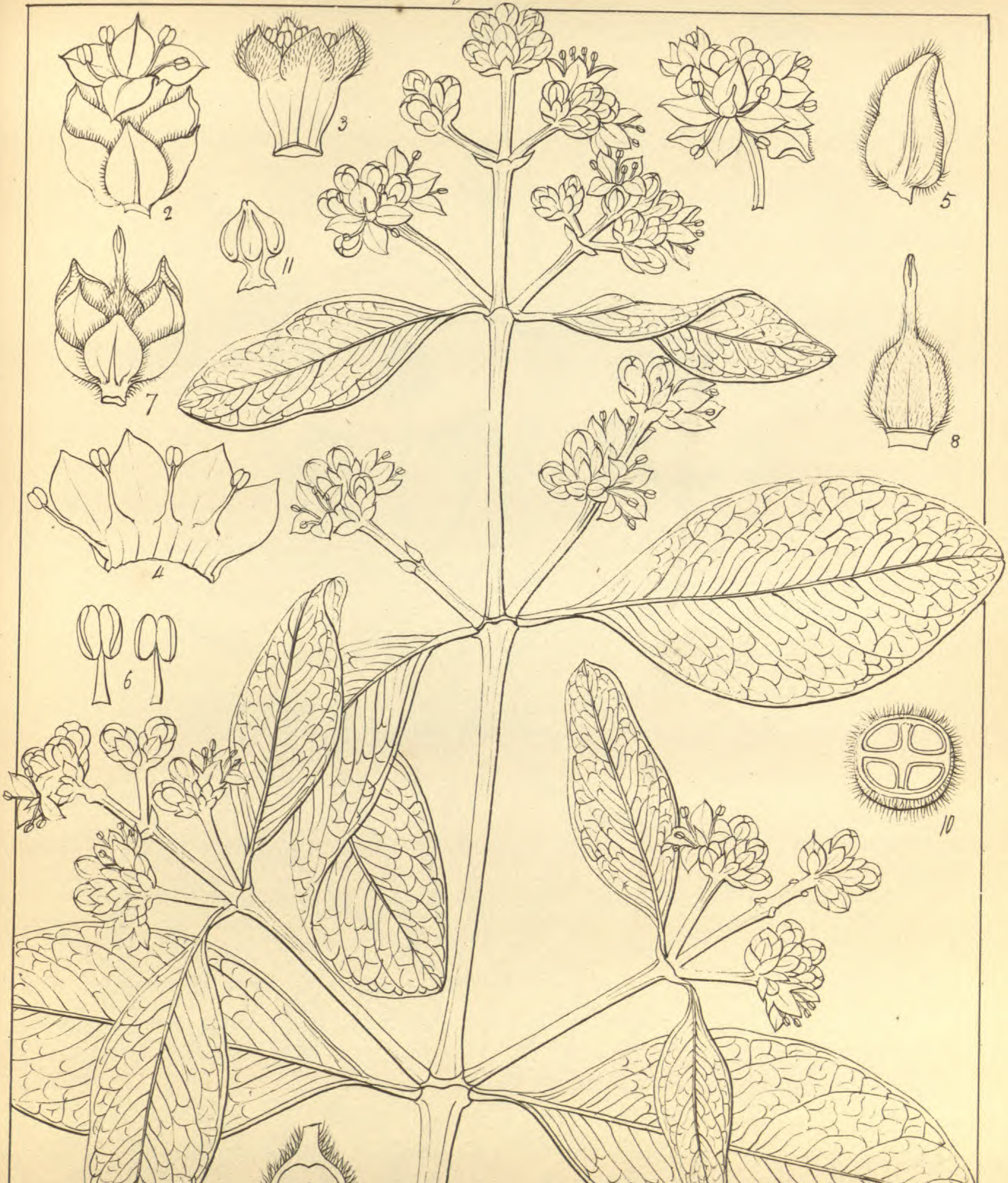
Govindoo, Del. Dunphy, Lith.

Congea velutena (R. W.)



Govindoo, del. Dumphy, Lithr.

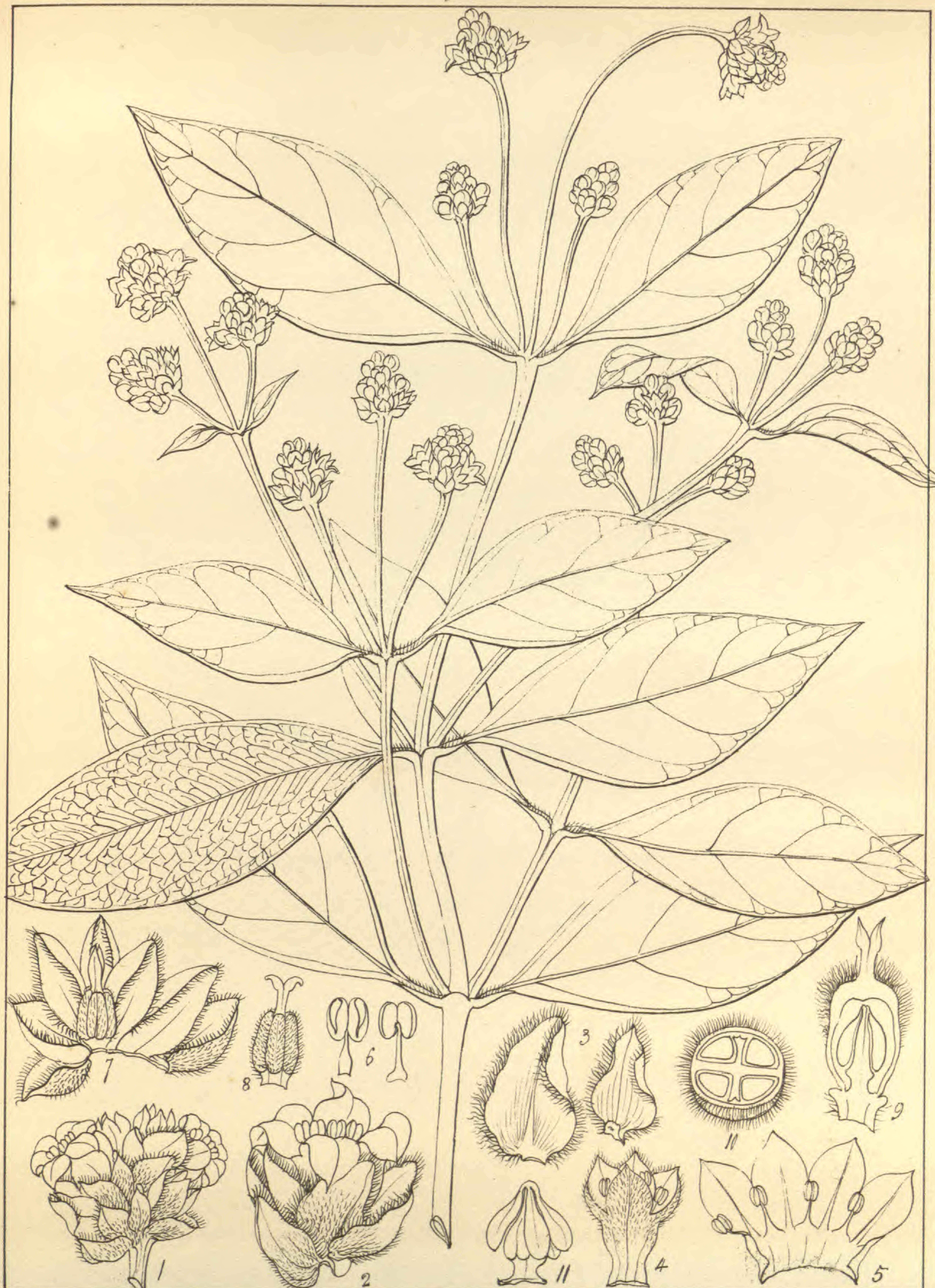
Callicarpa Wallichiana (Walp)



Govindoo, del.

Dumphy, Lith.

Avicennia tomentosa (Linn)



Govindoo, del. Dumphy, Lith.

Avicennia alba (Blume).

Govindoo, del. Dunphy, Lith.

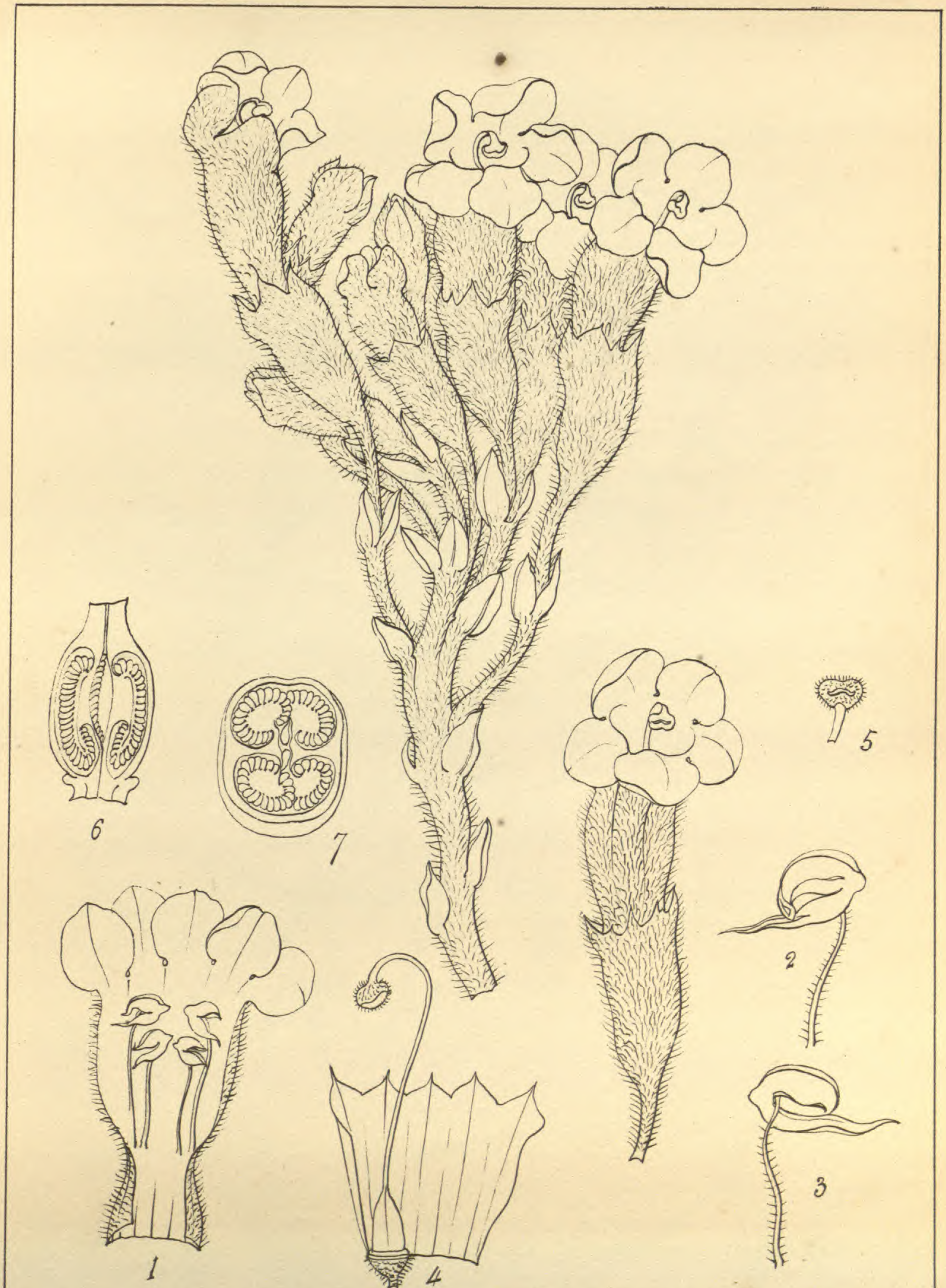
Premna cordifolia (Roxb)

Govindoo, del. Dumphy Lith.

Premna glaberima (R.W.)

Govindoo, del. Dunphy, Lith.

Premna thyrsoidea (R.W.)



Govindoo, del. Dumphy, Lith.

Christisonia aurantiaca (R.W.)

Govindoo, del. Dumphy, Lith.

Meyenia Hawtayniana (Nees)

Govindoo del. Dumphy Lith.

Ebermaiera glauca (Nees)

Govindoo, del. Dumphy, Lith.

Hygrophila obovata (Nees)

Govindoo, del. Dumphy, Lith.

Hygrophila salicifolia (Nees)

Govindoo, del. Dumphy, Lith.

Erythracanthus obtusus (Nees)

Govindoo, del. Dumphy, Lith.

Hemiadelphis polysperma (Nees)

Govindoo, del. Dunphy, Lith.

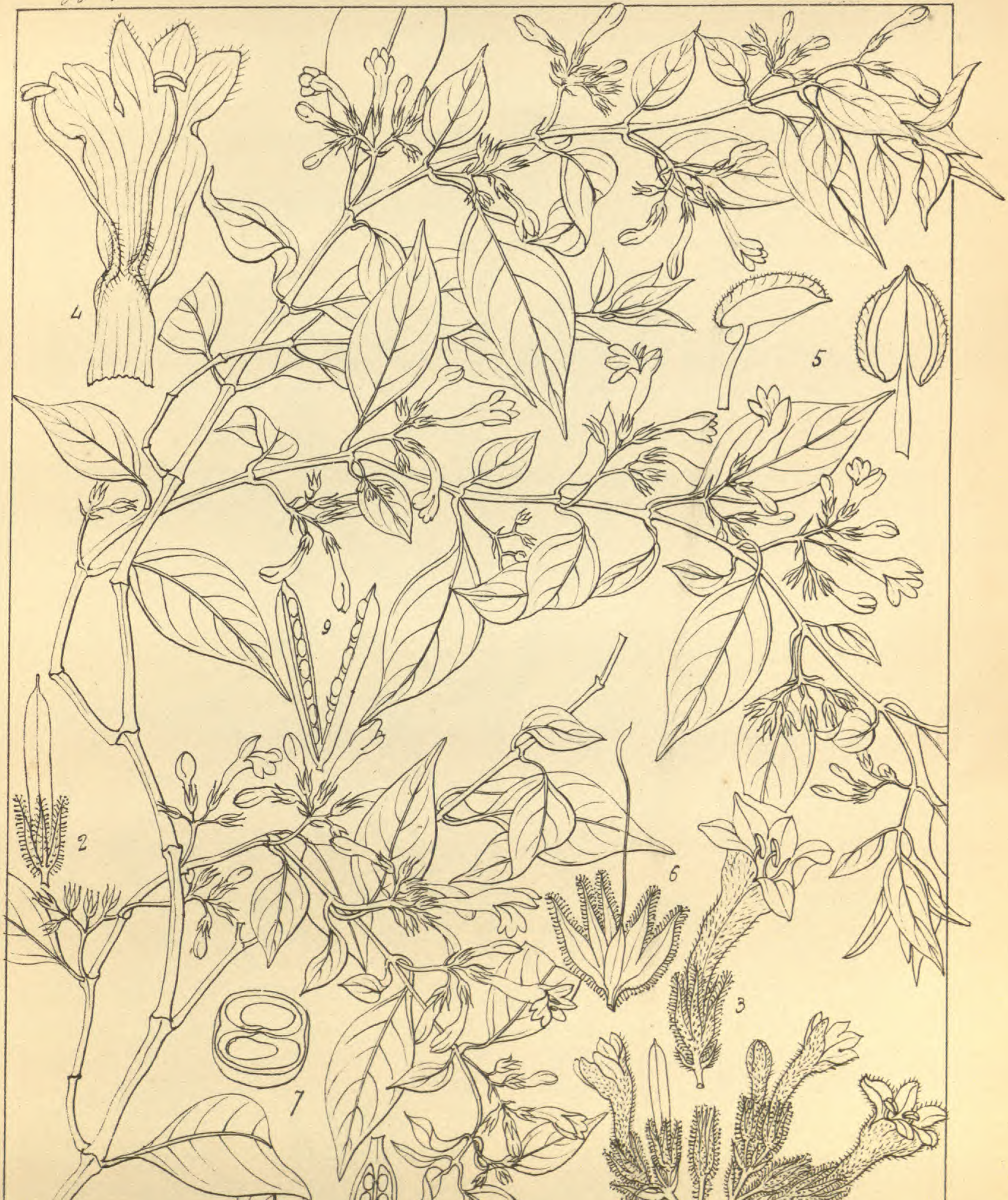
Physichilus serpyllum (Nees)

Govindoo, del. Dumphy, Lith.

Gymnostachyum polyanthum (R. W.)

Govindoo, del. Dumphy, Lith.

Cryptophragmium canescens (Nees)



Govindoo, del. Dunphy, Lith.

Cryptophragmium axillare (Nees)

Govindoo, del. Dumphy, Lith.

Endopogon versicolor (R.W.)

Govindoo, del. Dumphy, Lith.

Endopogon viscosum (Arnott)

Dunphy, Lith.

Eriopogon capitatus (R.W.)

Govindoo, del. Dumphy, Lithr.

Endopogon strobilanthes (R.W.)

Govindoo, del. Dunphy, Lith.

Endopogon foliosus (R.W.)

Govindoo, del. Dumphy, Lith.

Stenosiphonium diandrum (Nees)

Govindoo, del. Dumphy, Lith.

Stenosiphonium Russelianum (Nees)

Govindoo, del. Dumphy, Lith.

Hemigraphis latebrosa (Nees)

Govindoo, del. Dumphy, Lith.

Dipteracanthus patulus (Nees)

Govindoo, del. Dumphy, Lith.

Asystasia coromandeliana (Nees)

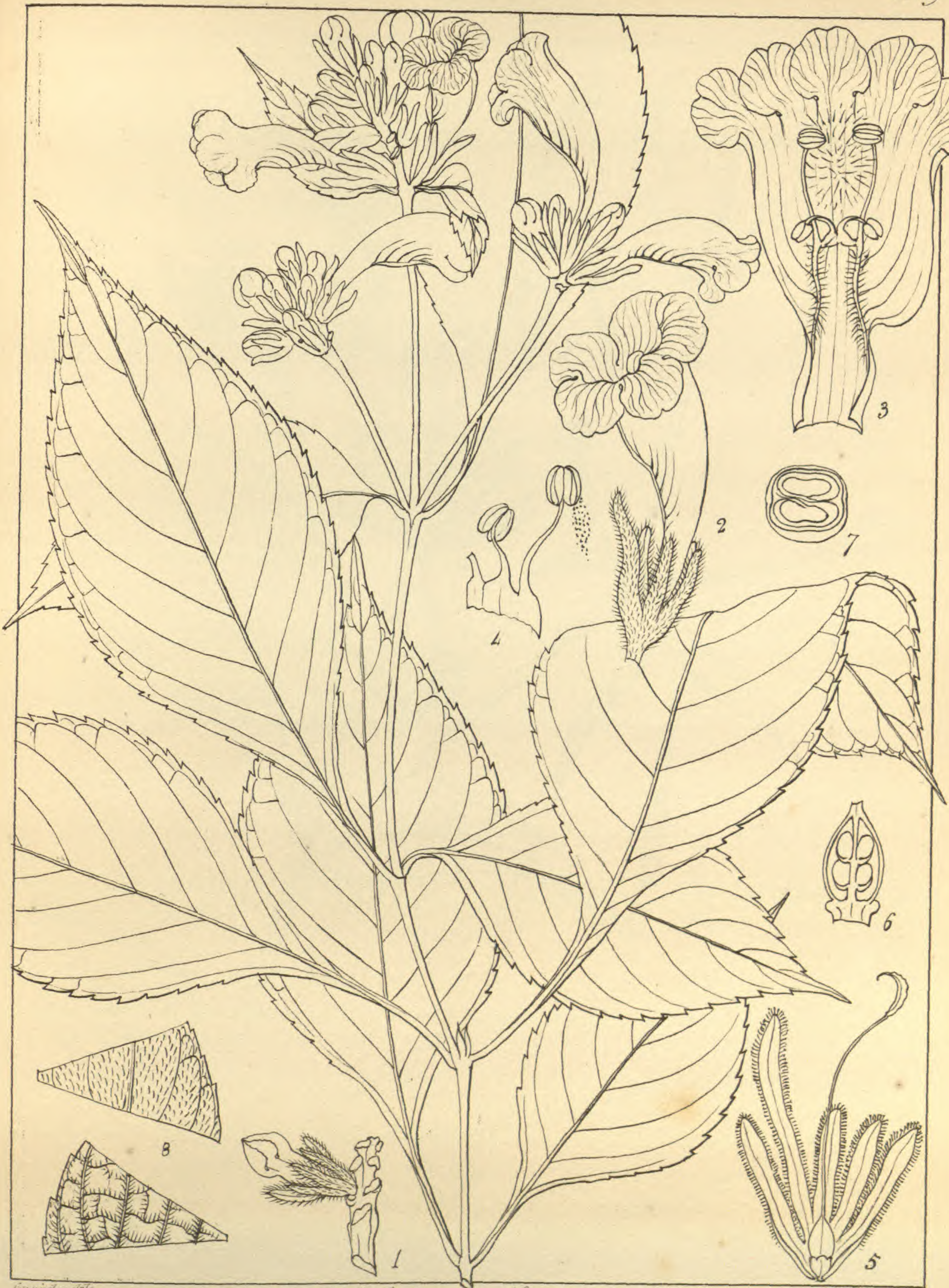
Govindoo, del.

Dumphy, Lith.

Leptacanthus Walkeri (Nees)

Govindoo, del. Dumphy, Lith.

Goldfussia tristis (R.W.)



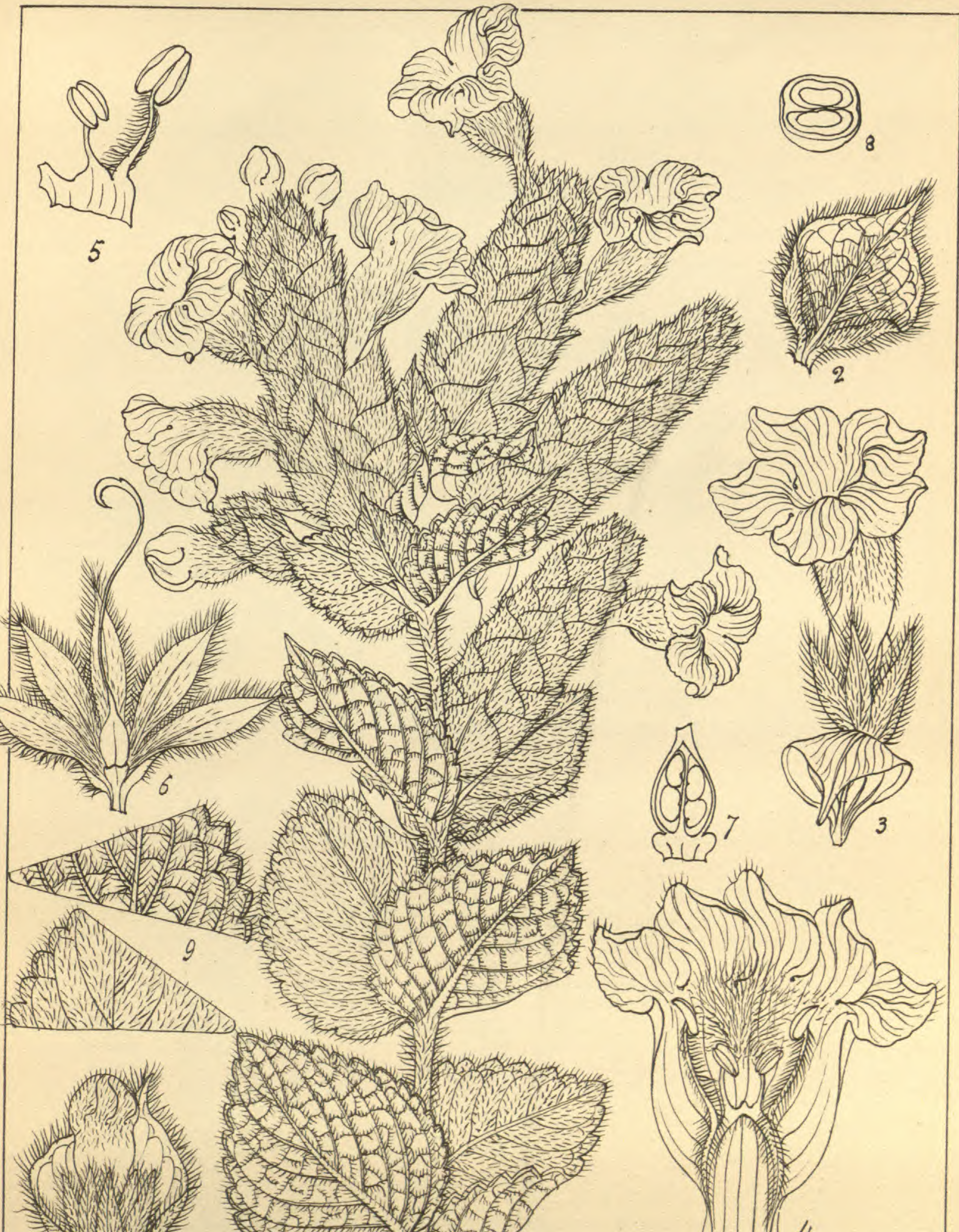
Goldfussia Dalhousiana (Nees)

Edgeworth, del. Dumphy, Lith.

Goldfussia pentstemonoides (Nees)

Govindoo, del. Dumphy, Lith.

Strobilanthes sessilis (Nees)



Govindoo, del.   Dunsphy, Lith.

Strobilanthes sessiloides (R.W.)

Govindoo del. Dunphy, Lith.

Strobilanthes Perrottetianus (Nees)

Govindoo, del. Dumphy, Lith.

Strobilanthes Wightianus (Nees)

Govindoo, del. Dunphy, Lith.

Strobilanthes luridus (R.W.)

Govindoo, del. Dumphy, Lith.

Strobilanthes ciliatus. (Nees)

Govindoo, del. Dumphy, Lith.

Strobilanthes asper (R.W.)

Govindoo, del.   Dunphy, Lith.

Strobilanthes micranthus (R.W.)

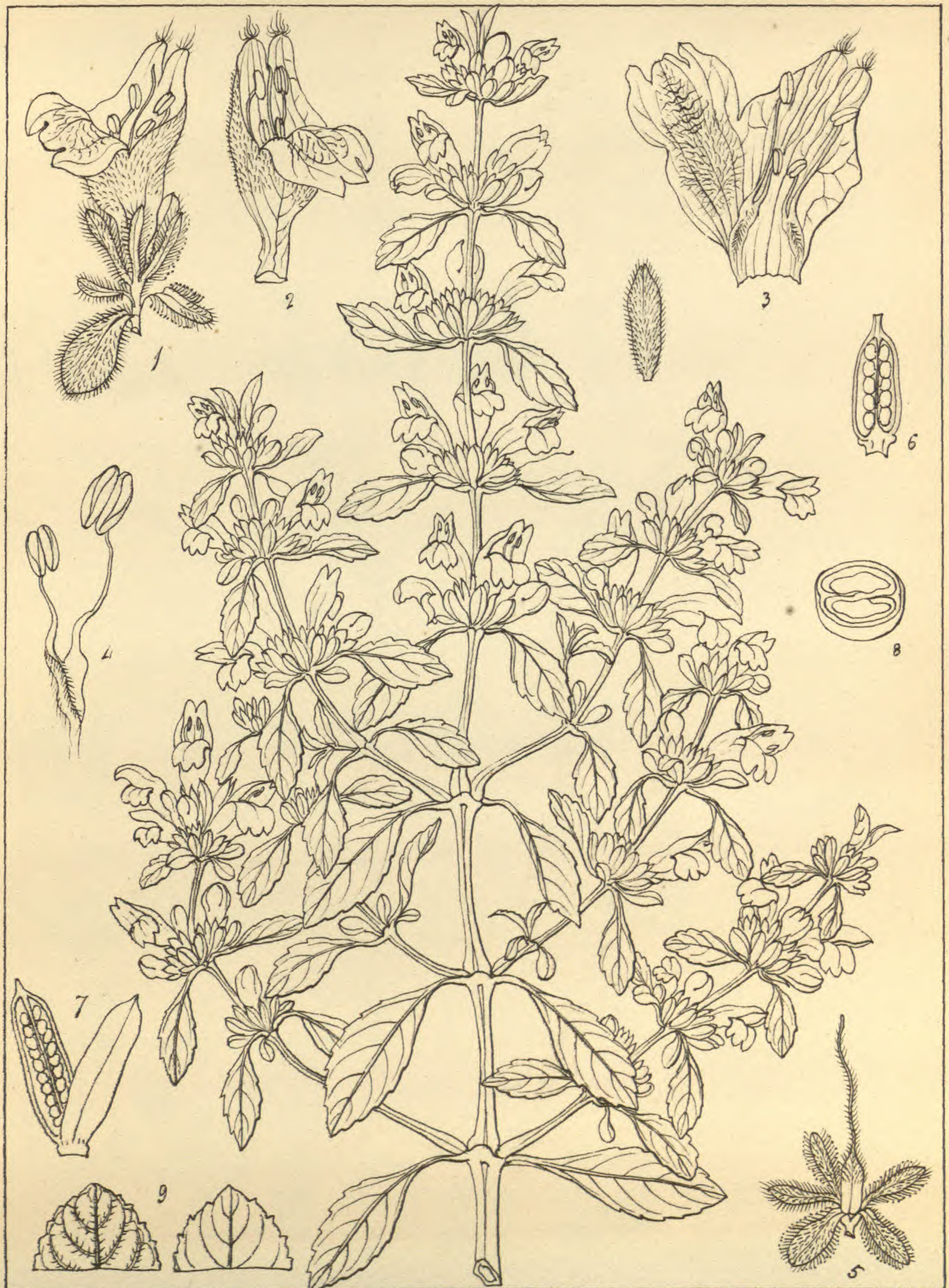
Govindoo, del. Dunphy, Lith.

Strobilanthes Grahamianus (R.W.)

Govindoo, del. Dunphy, Lithr.

Endopagon rhamnifolius (R.W.)

Strobilanthes Neesiana (R.W.)



Govindoo, del. Dumphy, Lith.

Adenosma verticillata (Nees)

Govindoo, del. Dumphy, Lith.

Gymnostachyum alatum (R.W.)

Govindoo, del. Dumphy, Lith.

Calophanes vagans (R.W.)

Govindoo, del.

Dumphy, Lith.

Leptacanthus alatus (R.W.)

Walter Abraham, del.

Dunphy, Lith.

Barberia Hochstetteri (Nees)

Govindoo del.   Dumphy, Lith.

Barleria Courtallica (Nees)

Govindoo, del. Dunphy, Lith.

Lepidagathis Walkeriana (Nees)

Govindoo, del. Dumphy, Lith.

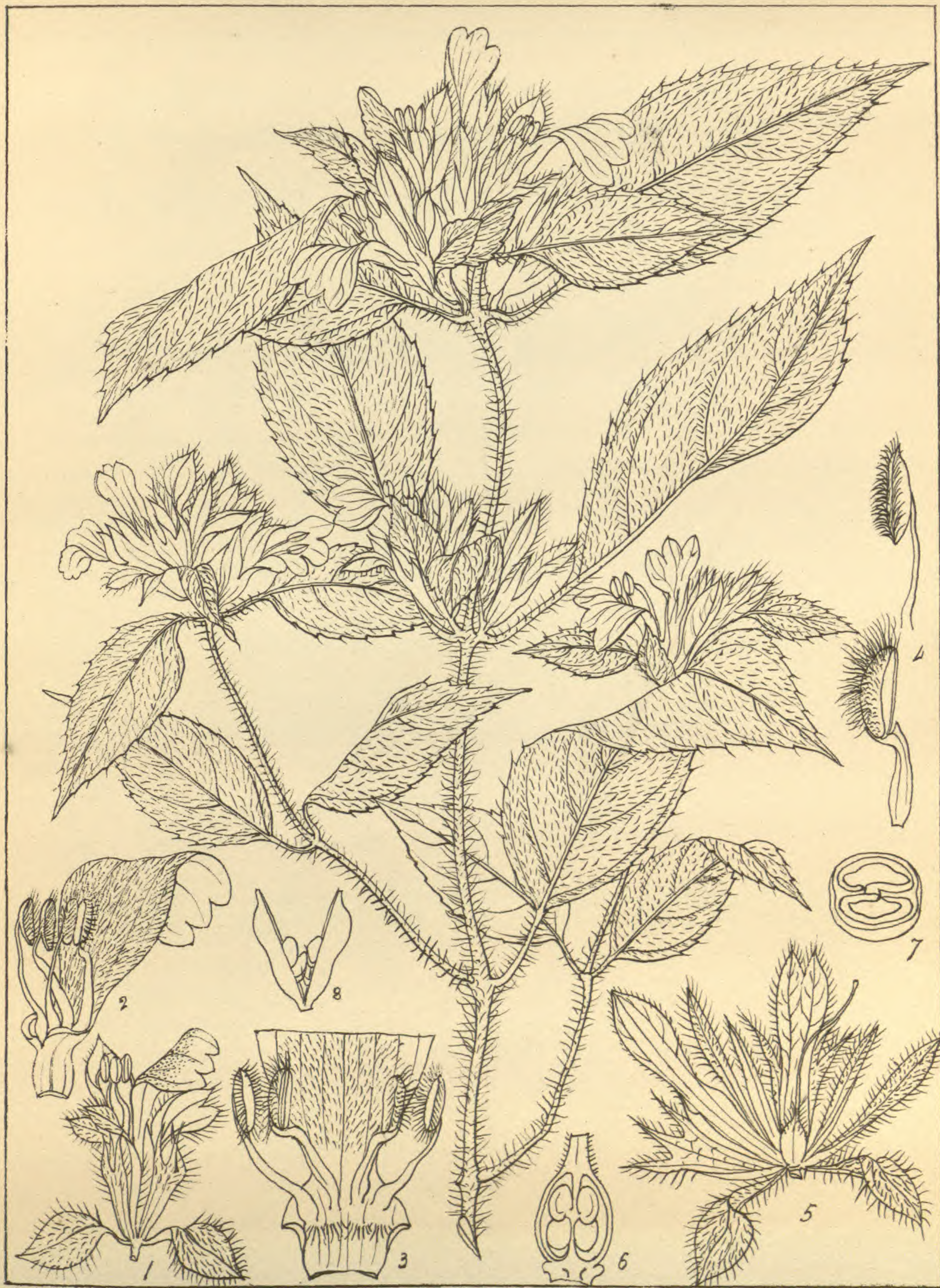
Neuracanthus Lawii (R.W.)

Govindoo, del. Dumphy, Lith.

Neuracanthus trinervius (R.W.)

Govindoo, del. Dumphy, Lithr

Ctheilema reniforme (Nees)

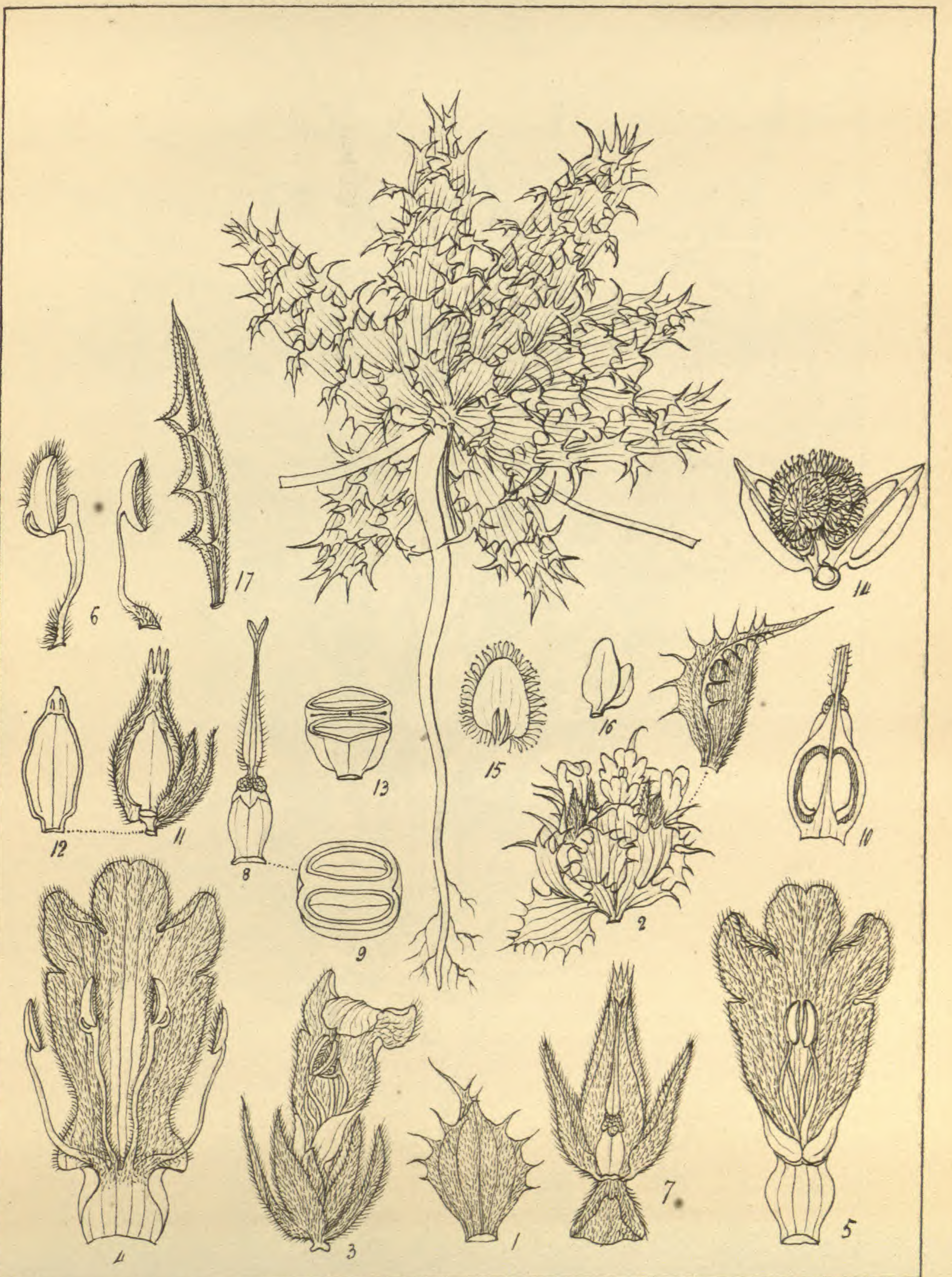


Govindoo, del. Dumphy, Lith.

Blepharis asperrima (Nees)

Govindoo, del. Dumphy, Lith.

Acanthodium grossum (Nees)



Govindoo, del. Dunphy, Lith.

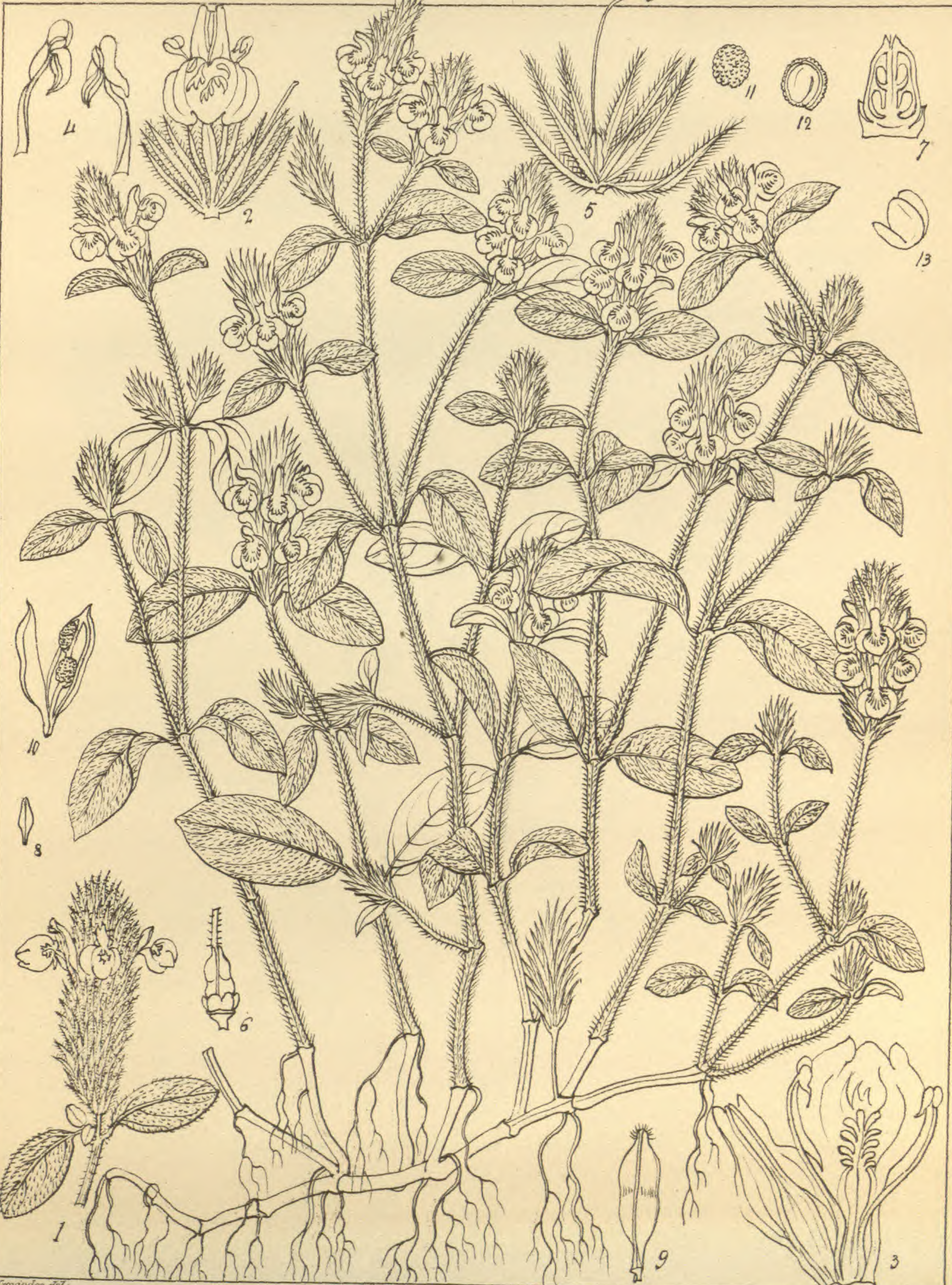
Acanthodium grossum (Nees)

Govindoo, del. Dunphy, Lith.

Phloganthus latifolius (R.W.)

Gouindoo, del. Dunphy, Lith.

Hemichoriste montana (Nees)



Govindoo, del. Dunphy, Lith.

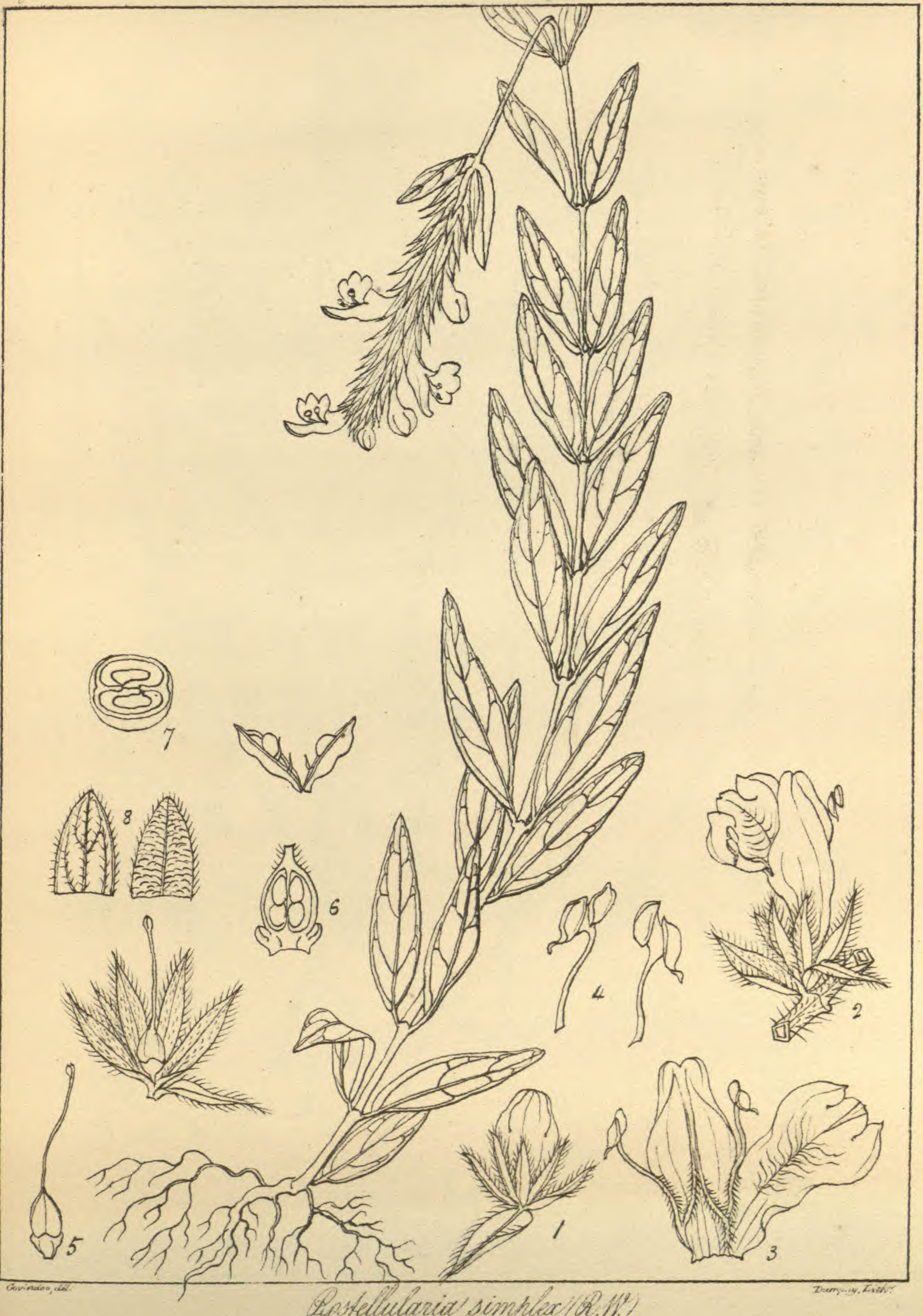
Rostellularia procumbens (Nees)

Govindoo, del. Dumphy, Lith.

Rostellularia hedyotidifolia (Nees)

Govindoo, del. Dumphy Lith.

Rostellularia gracilis (R.W.)



Govindoo, del. Dumphy, Lith.

Rostellularia simplex (R.W.)

Govindoo, del. Dunphy, Lith.

Leptostachya Wallichii (Nees)

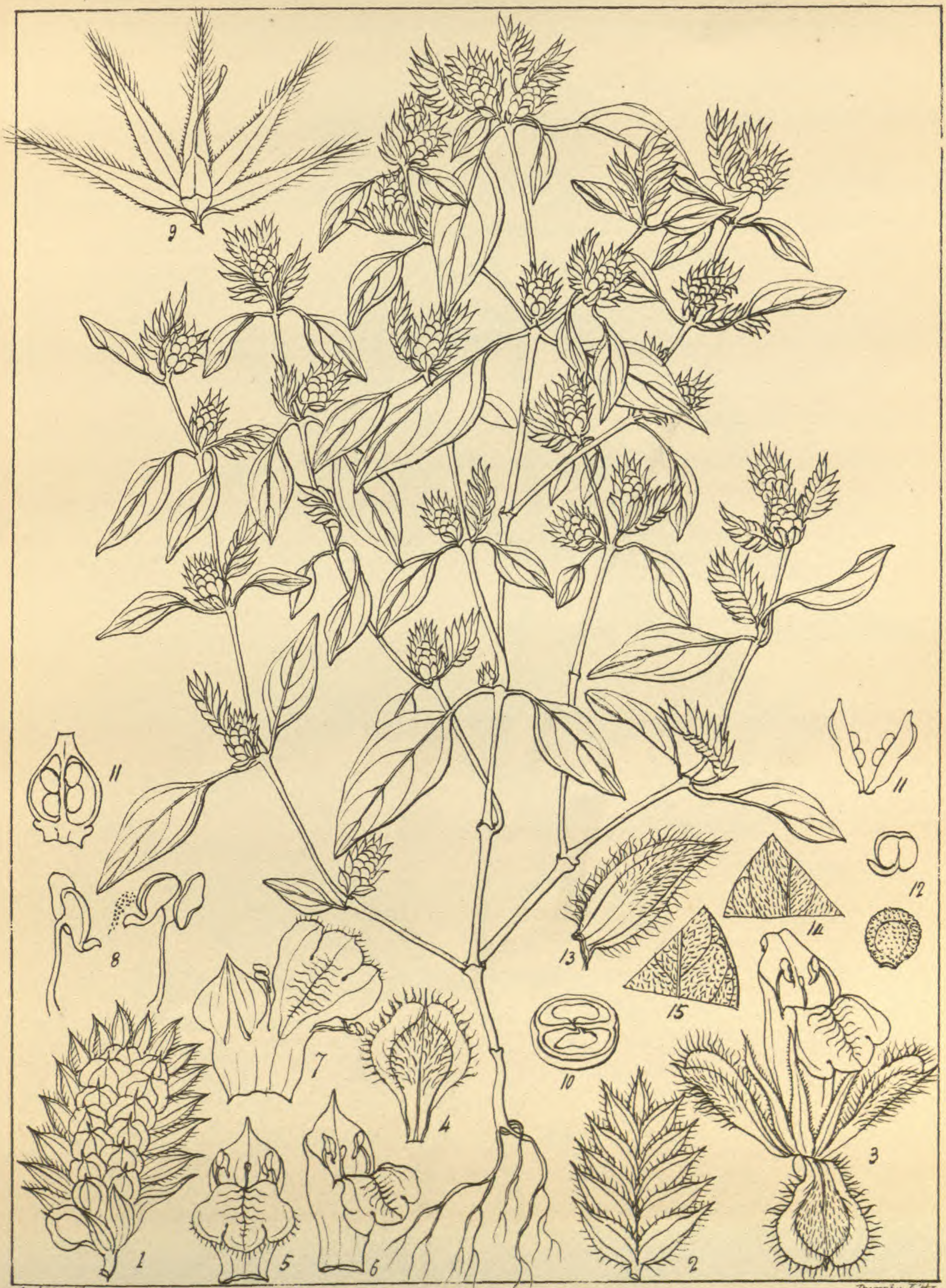
Govindoo, del. Dumphy, Lith.

Adhatoda Neilgherrica (Nees)

Govindoo, Del. Dumphy, Lith.

Adhatoda Wynaadensis (Nees)

Justicia livida (Hamilt.)



Govindoo, del. Dunphy, Lith.

Rungia pectinata (Nees)

Govindoo, del. Dumphy, Lith.

Rungiah latior (Nees)

Govindoo, del. Dumphy, Lith.

Rungia Wightiana (Nees)

Govindoo, del. Dumphy, Lith.

Rungia Arnottiana (R.W.)

Govindoo, del. Dumphy, Lith.

Dicliptera bivalvis (Ross)

Govindoo, del. Dumphy, Lith.

Dicliptera cuniata (Nees)

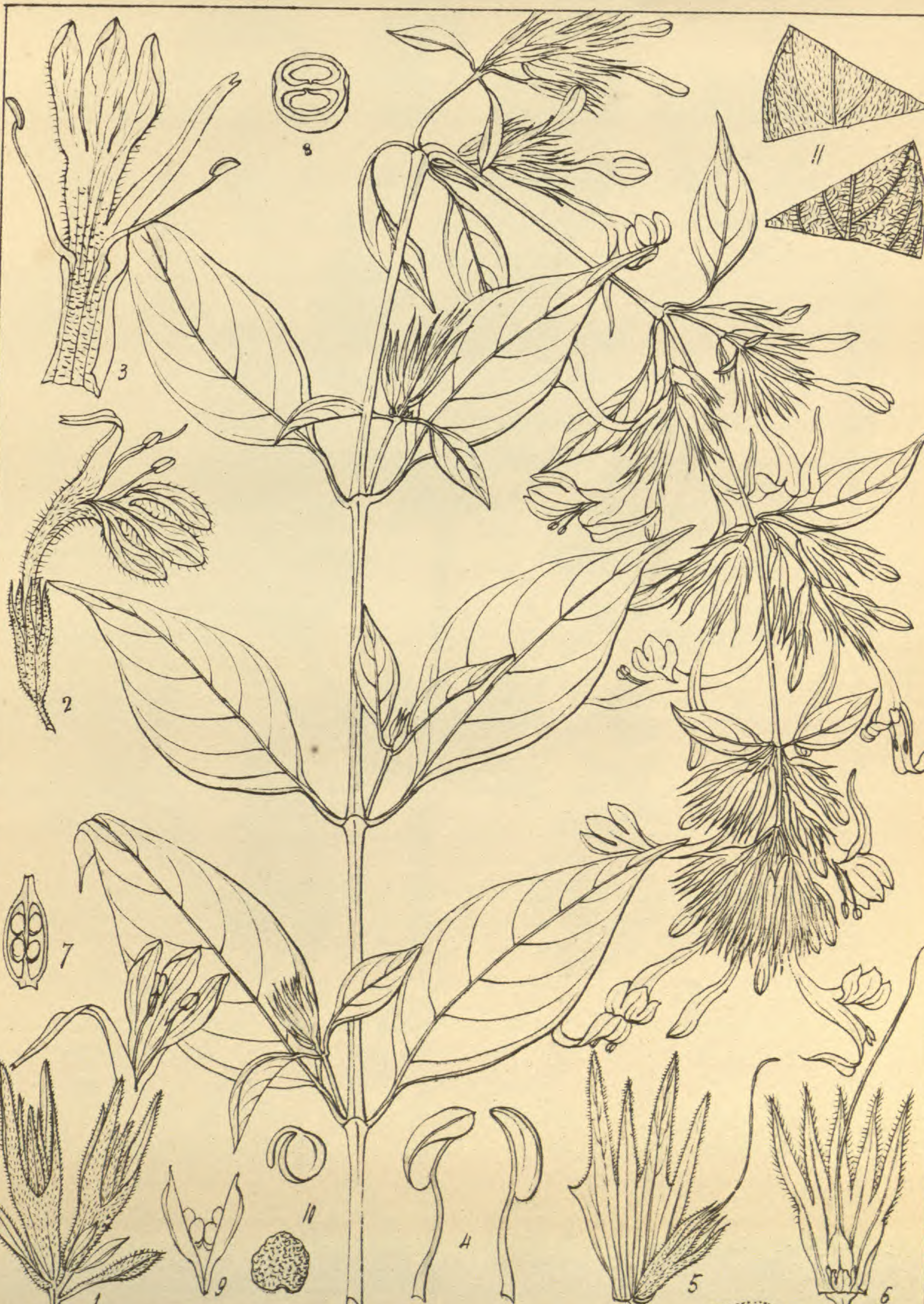
Govindoo, del. Dunphy, Lith.

Peristrophe montana (Nees)

Peristrophe montana (Nees)

Govindoo, del. Dumphy, Lith.

Rhaphidospora glabra (Nees)

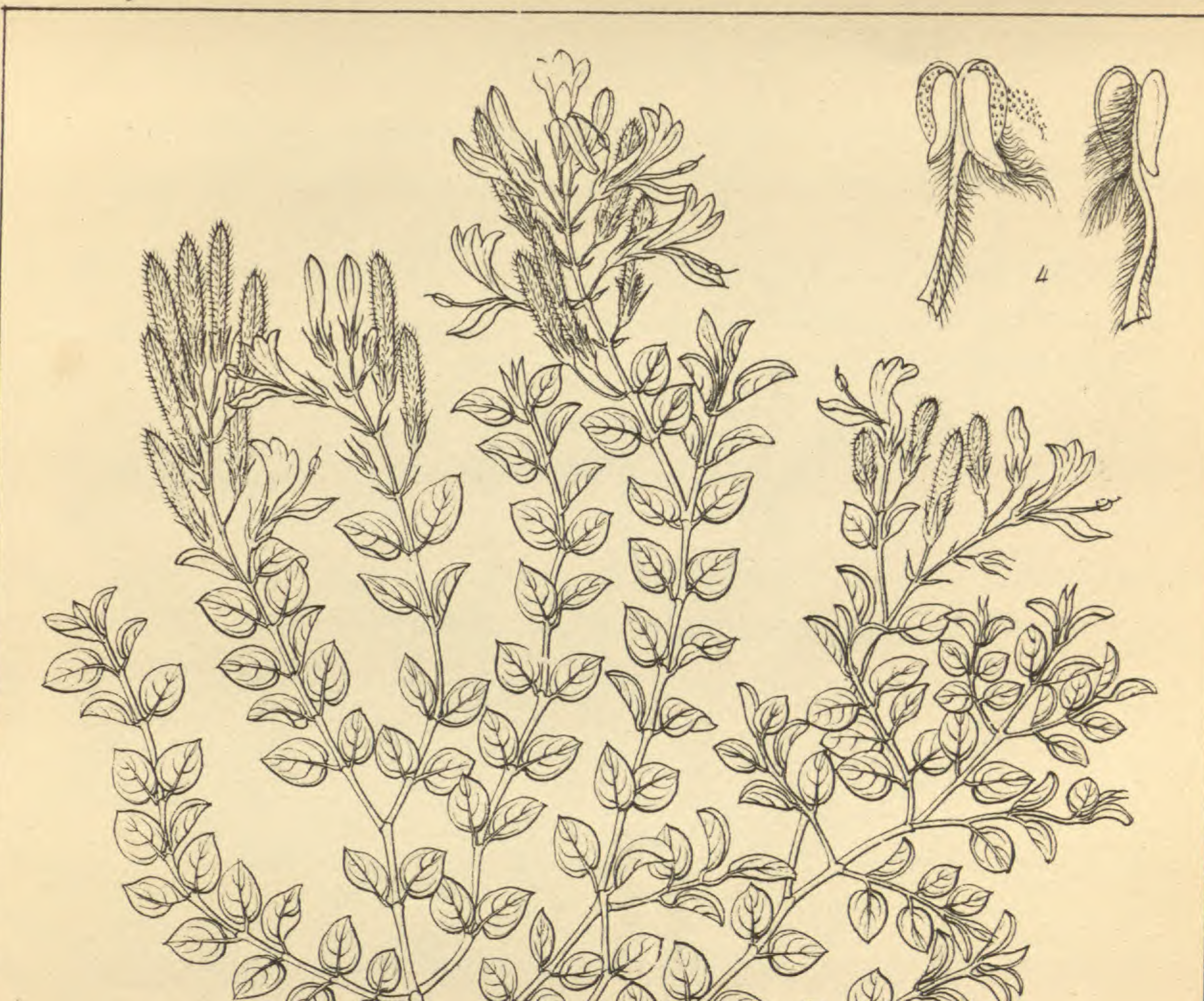


Govindoo, del. Dunphy, Lith.

Hypoestes Malaccensis (R.W.)

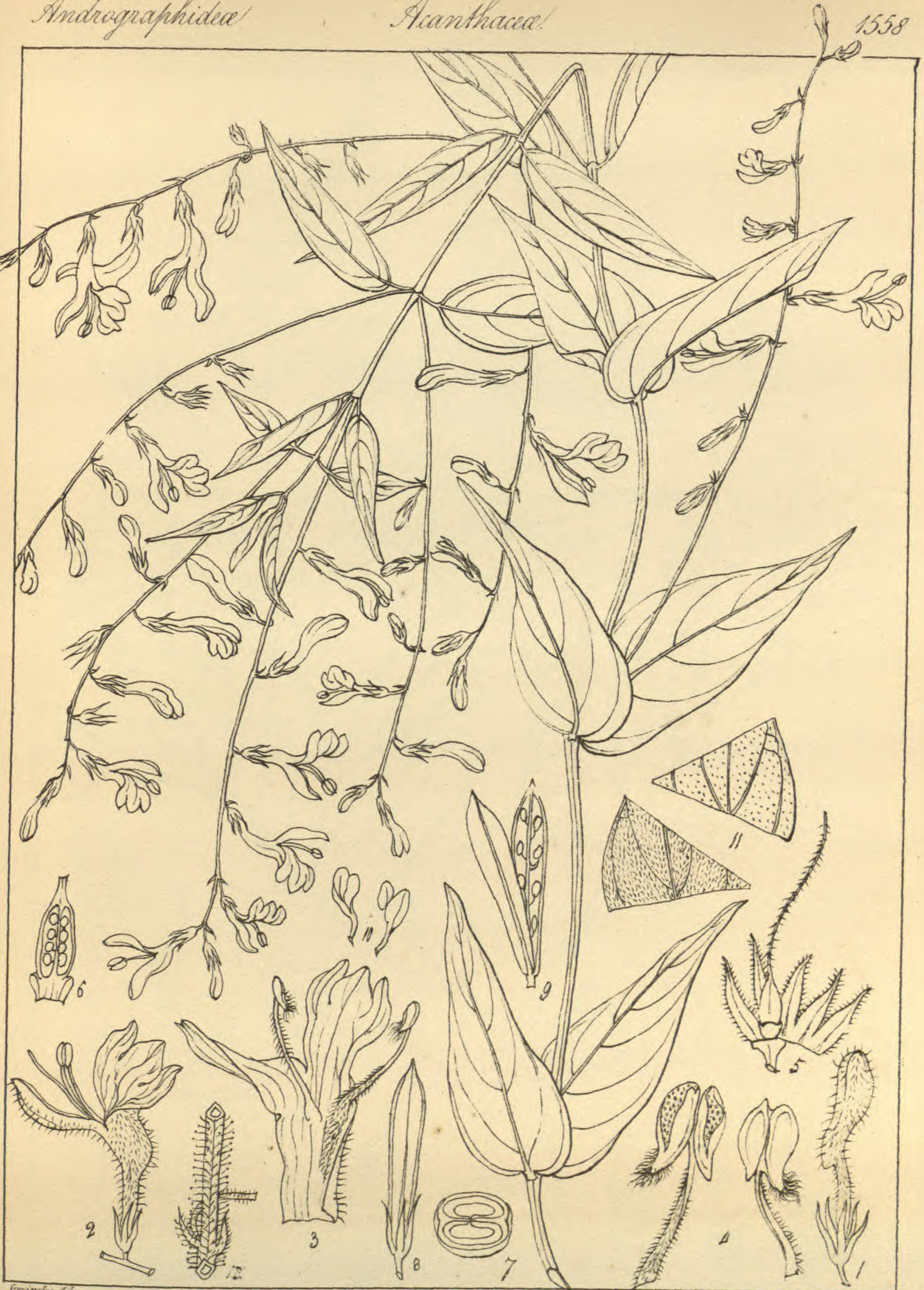
Govindoo, del. Dumphy, Lith.

Haplanthus neilgherrensis (R.W.)



Govindoo, del. Dunphy, Lith.

Andrographis lobelioides (R.W.)



Govindoo, del. Dumphy, Lith.

Andrographis Wightiana (Nees)

Govindoo, del. Dumphy, Lith.

Andrographis viscosula (Nees)

Govindoo, del. Dunphy, Lith.

Andrographis ceylanica (Nees)

Govindoo, del. Dumphy, Lith.

Andrographis Neesiana (R. W.)

Govindoo, del. Dumphy, Lith.

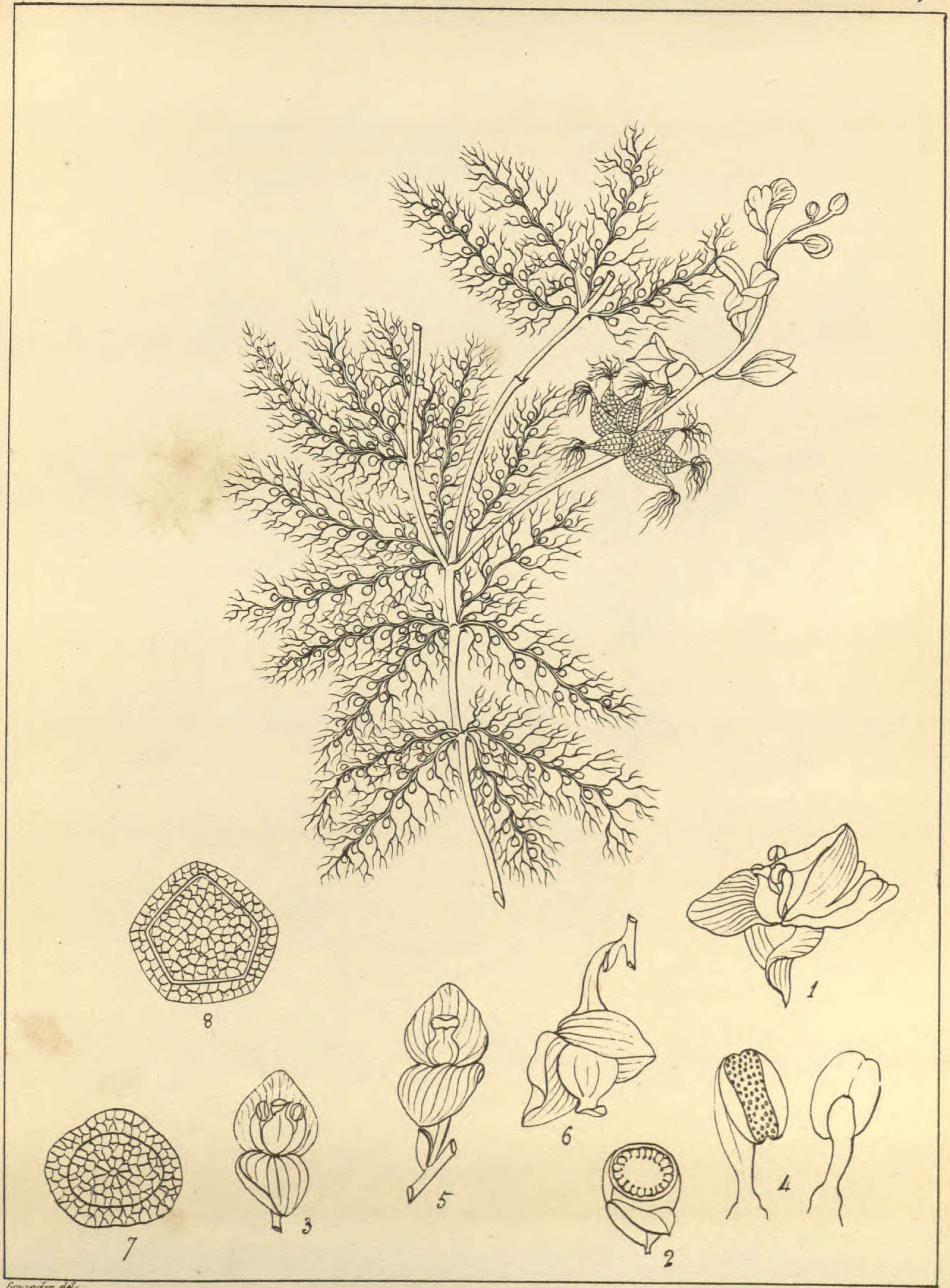
Strobilanthes campanulatus (R.W.)

Govindoo, del. Dunphy, Lith.

Ruellia? punctata (Nees)

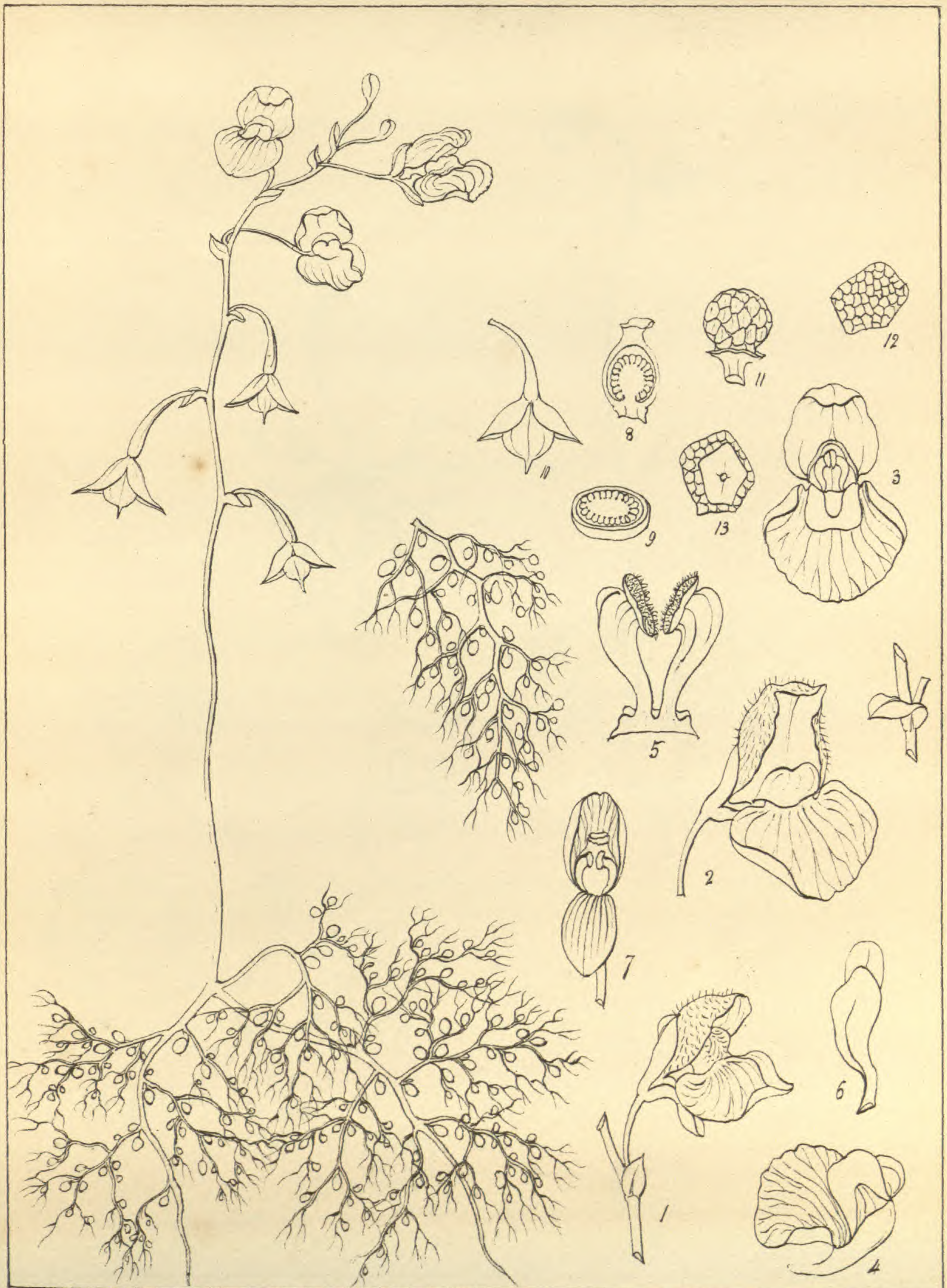
Govindoo, del. Dumphy, Lith.

Lepidagathis longifolia (R.W.)



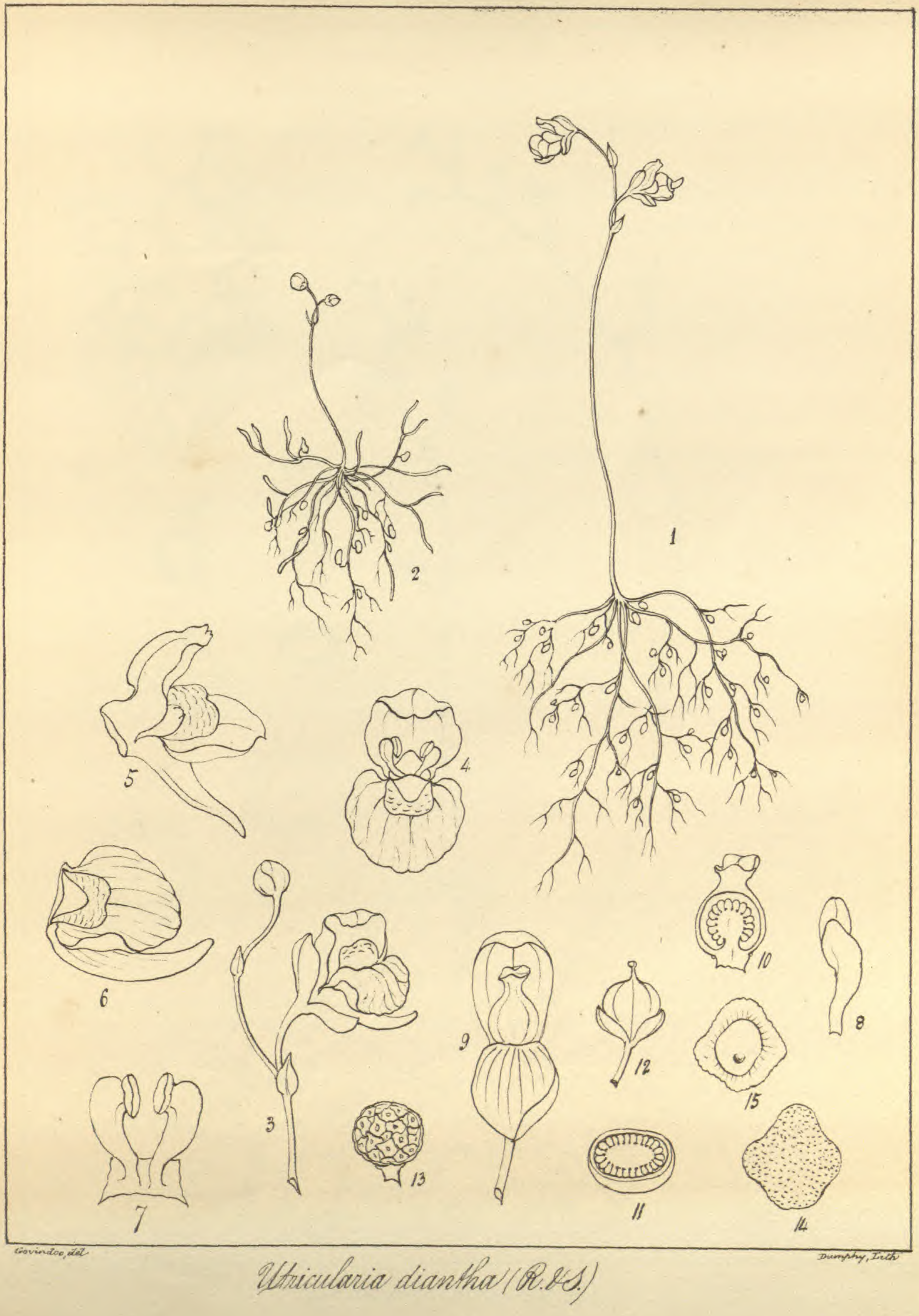
Govindoo, del. Dunphy, Lith.

Utricularia stellaris (Lin fil)



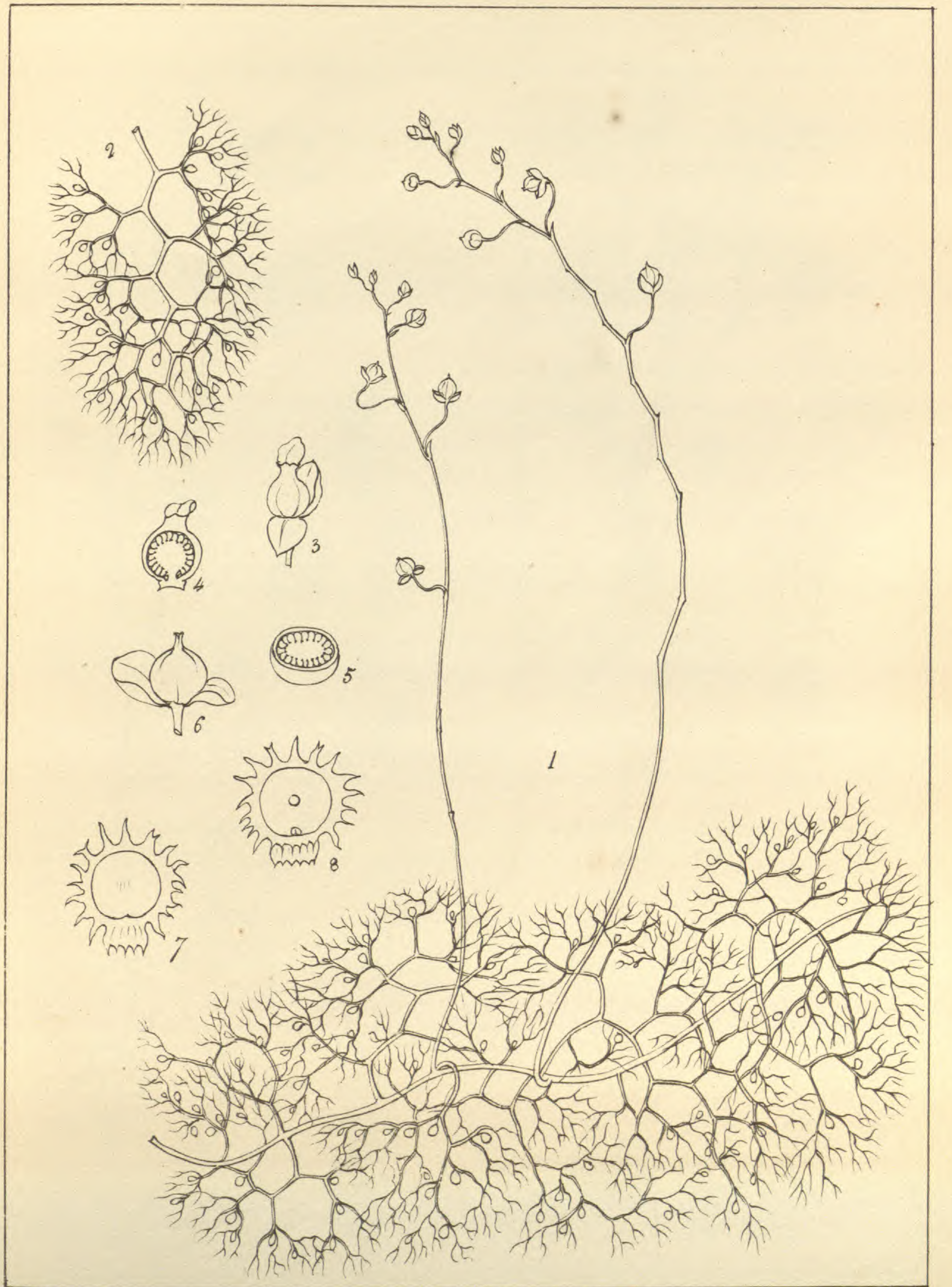
Govindoo, del. Dumphy, Lith.

Utricularia fasciculata (Roxb)



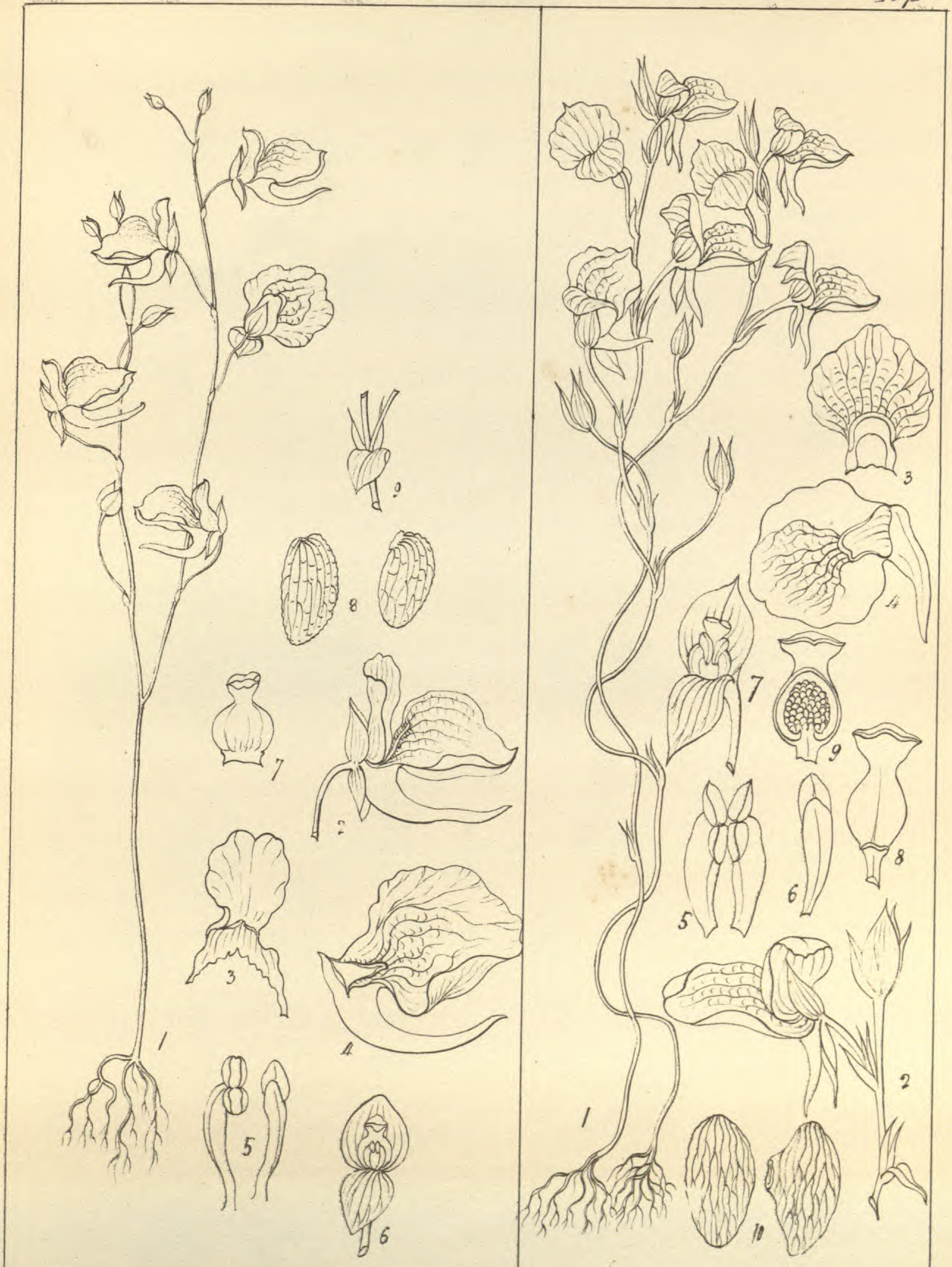
Govindoo, del. Dumphy, Lith.

Utricularia diantha (R. & S.)



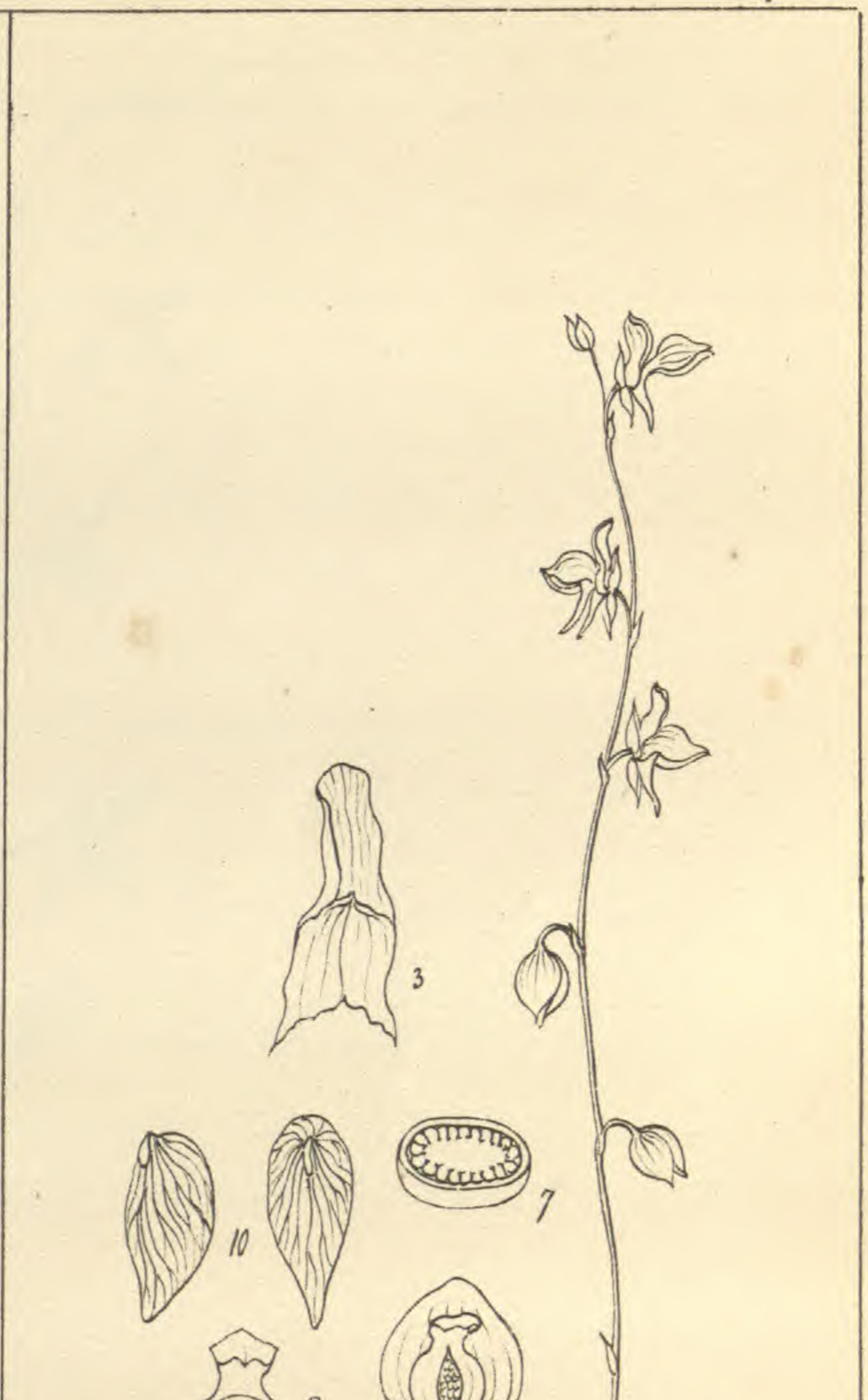
Govindoo, del. Dumphy, Lith.

Utricularia punctata (Wall)



Govindoo del. Dumphy Lith.

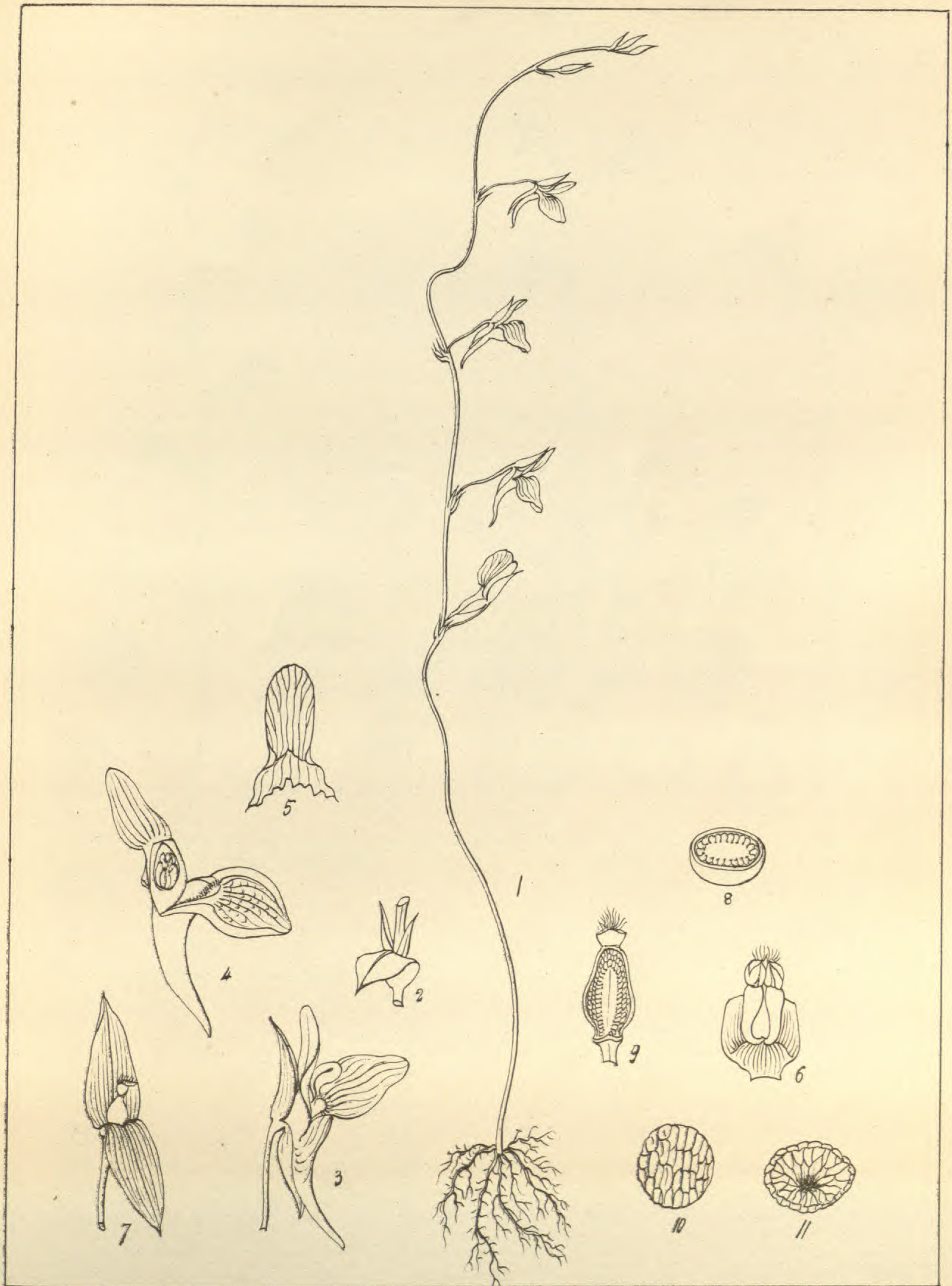
U. arcuata (R. W.) U. reticulata (Smith)



Govindoo del. Dumphy Lith.

U. Wallichiana (R.W.)

U. humilis (Vahl)

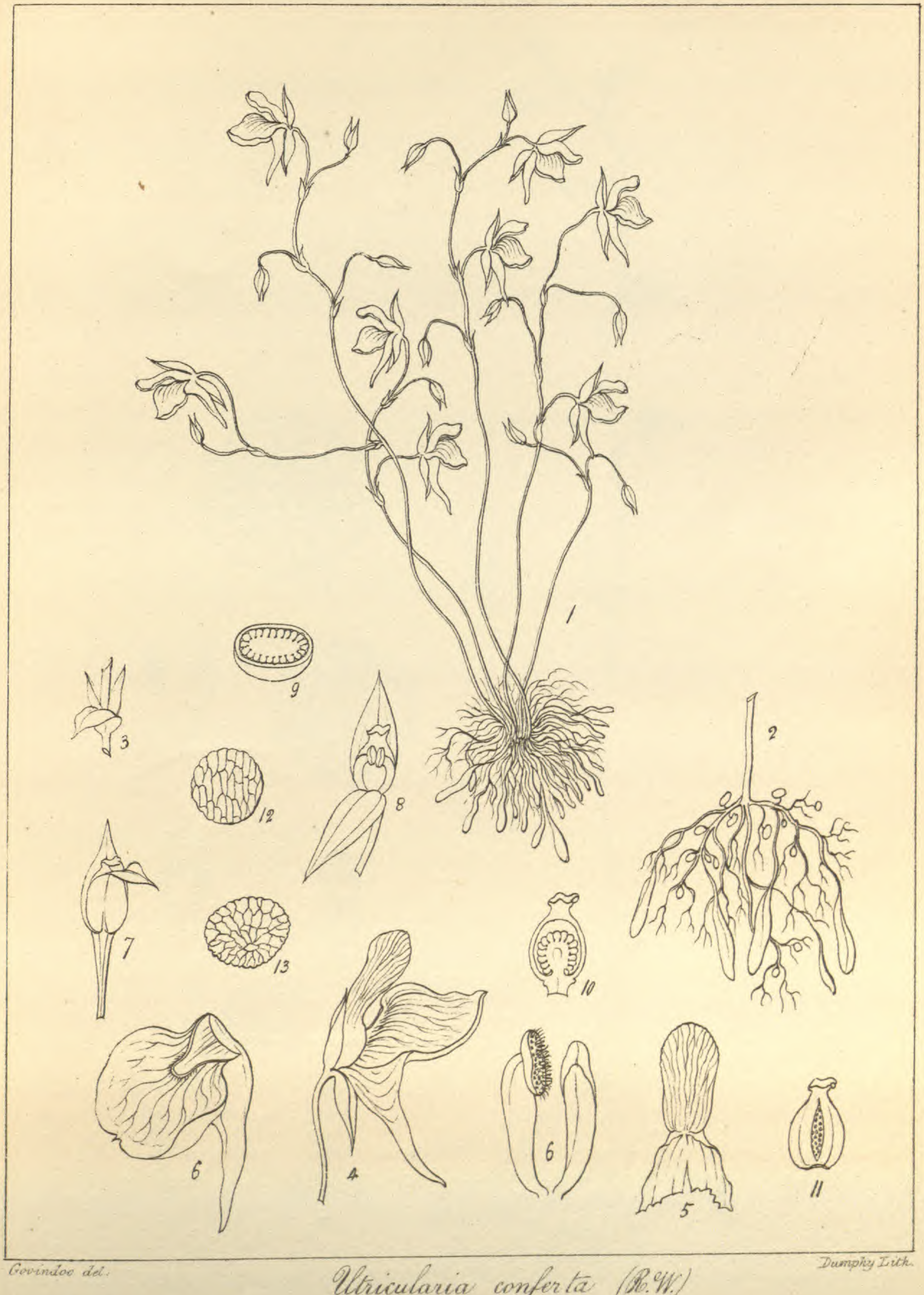


Govindoo del. Dumphy Lith.

Utricularia uligenoides (R.W.)

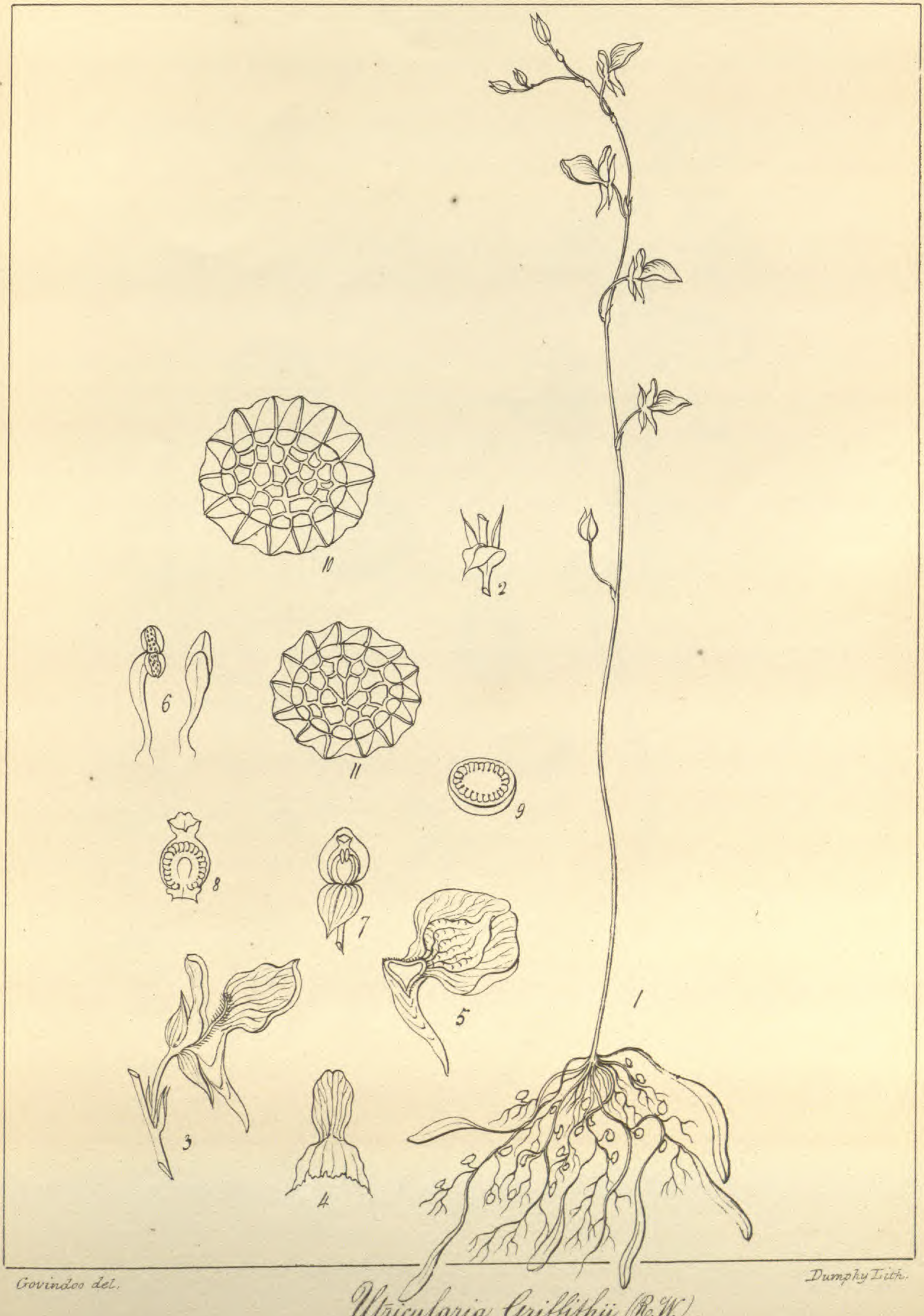
Govindoo del. Dumphy Lith.

Utricularia uligenosa (Vahl)



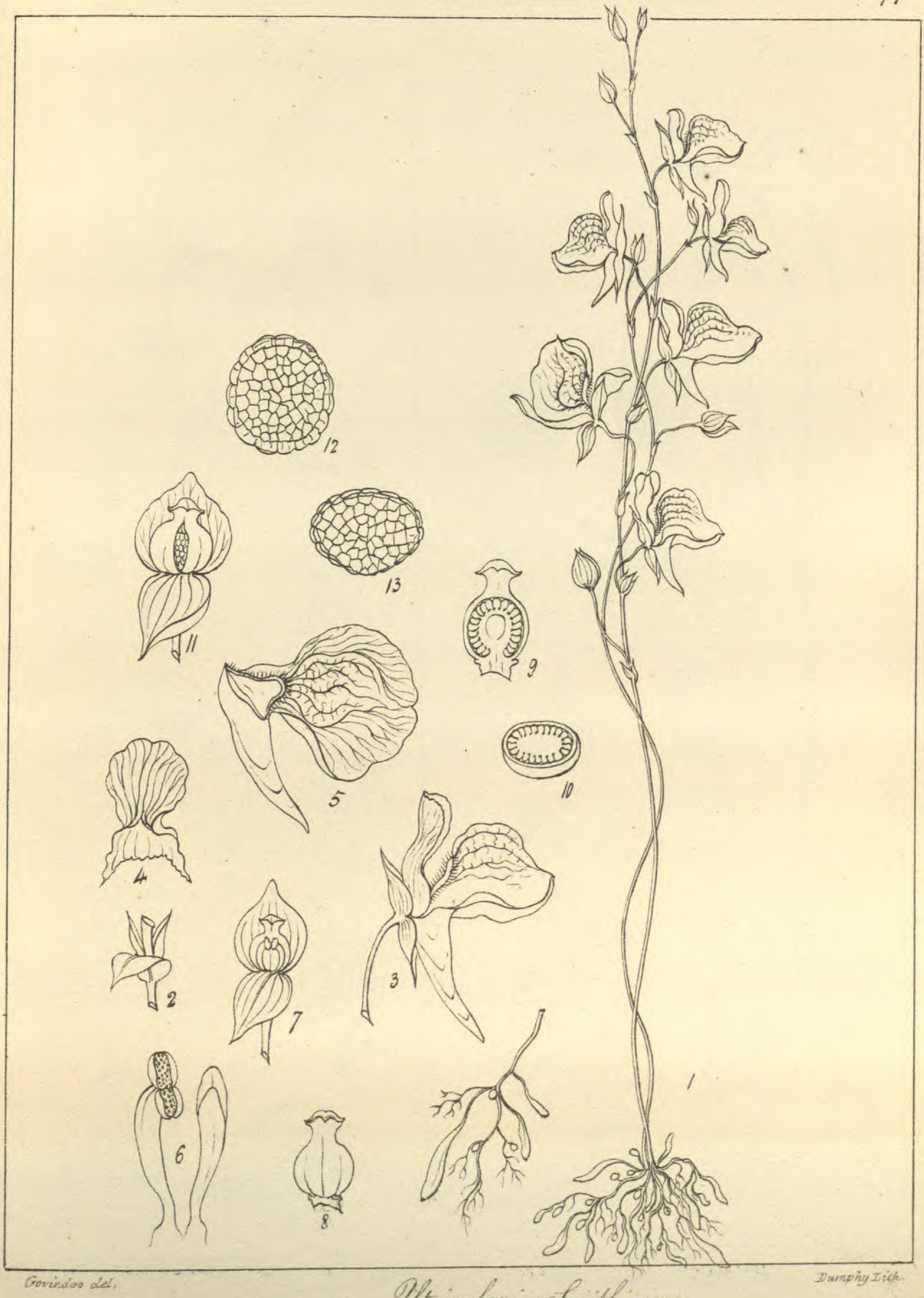
Govindoo del. Dumphy Lith.

Utricularia conferta (R. W.)



Govindoo del. Dumphy Lith.

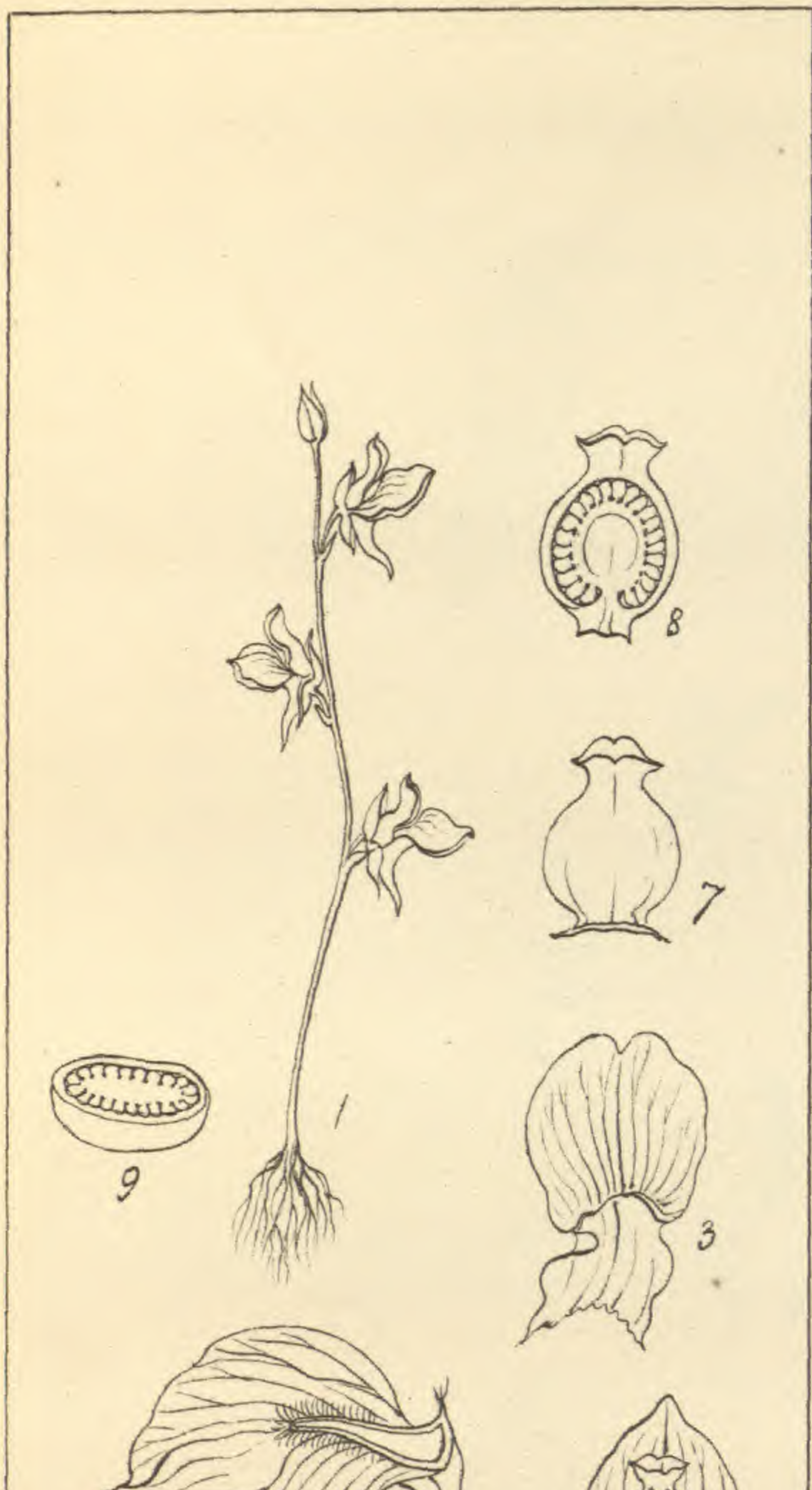
Utricularia Griffithii (R.W.)

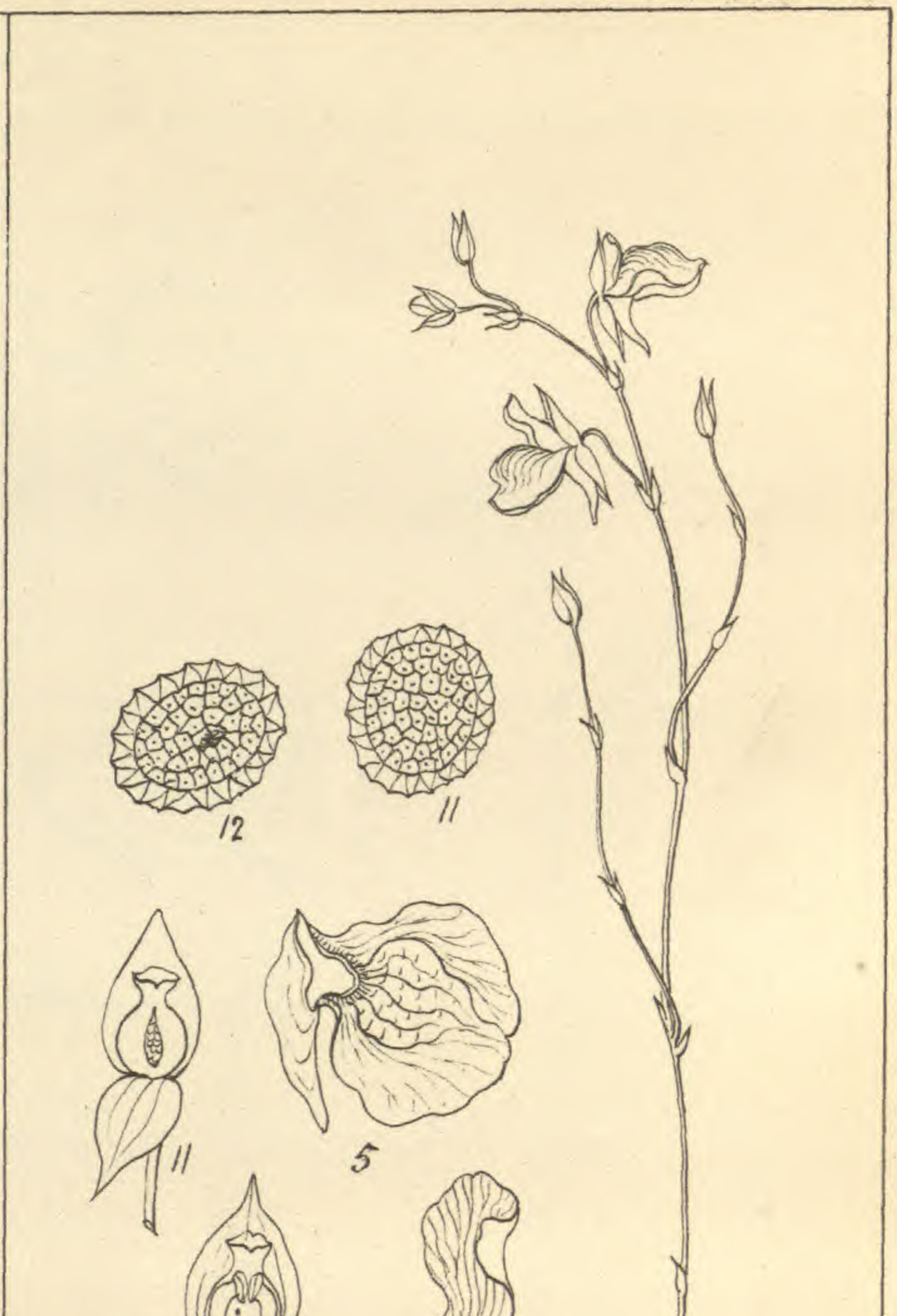


Govindoo del.

Dunphy Lith.

Utricularia Smithiana

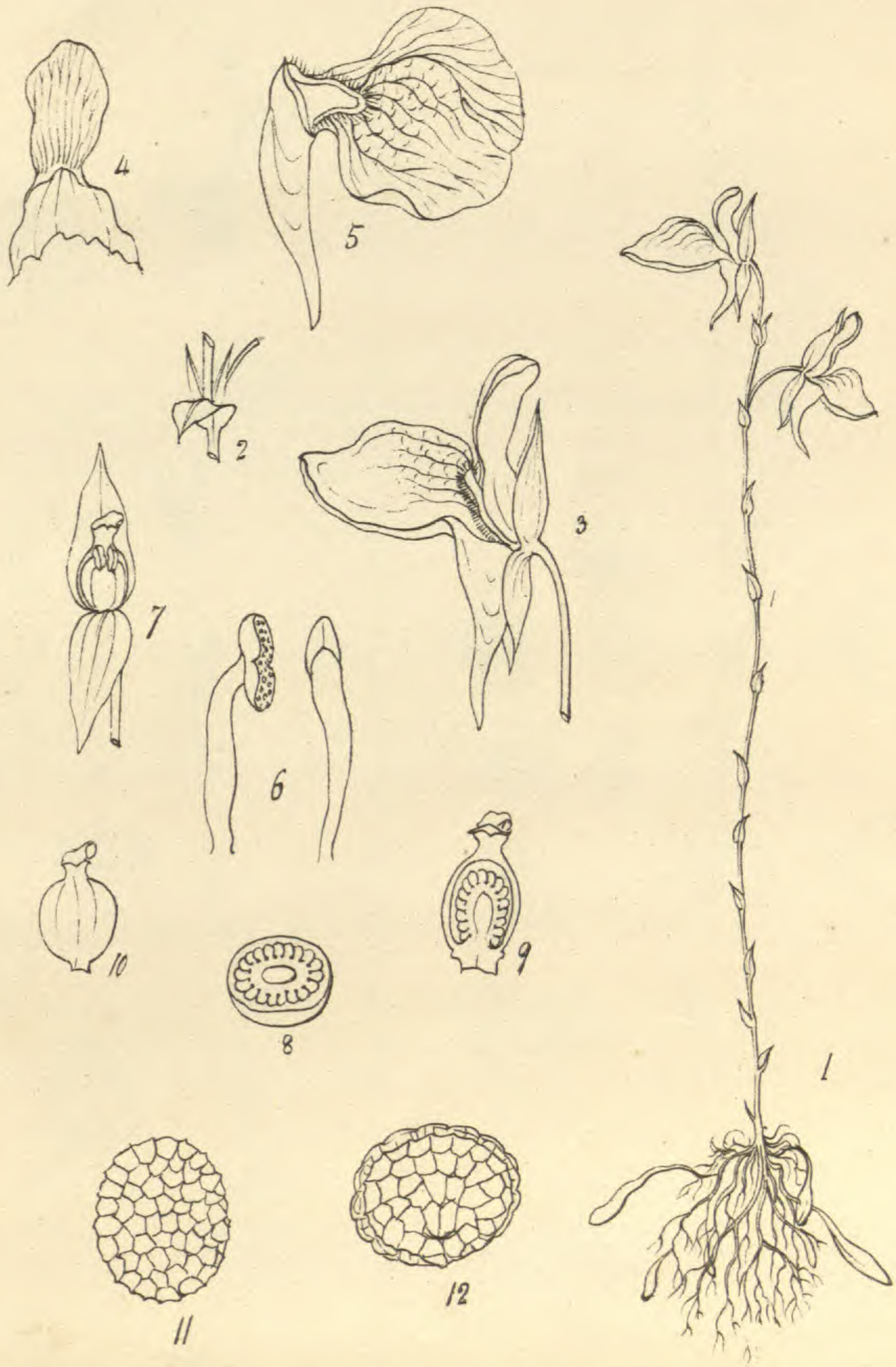




Govindoo del. Dumphy Lith.

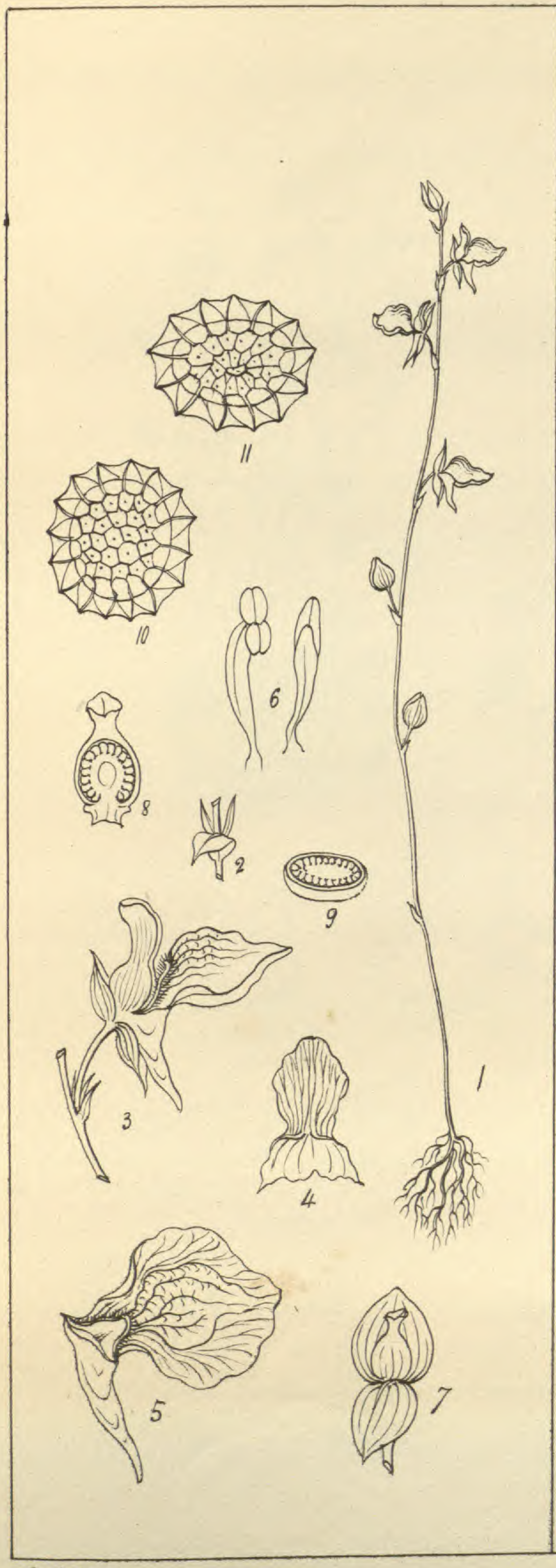
U. brachypoda (R. W.)

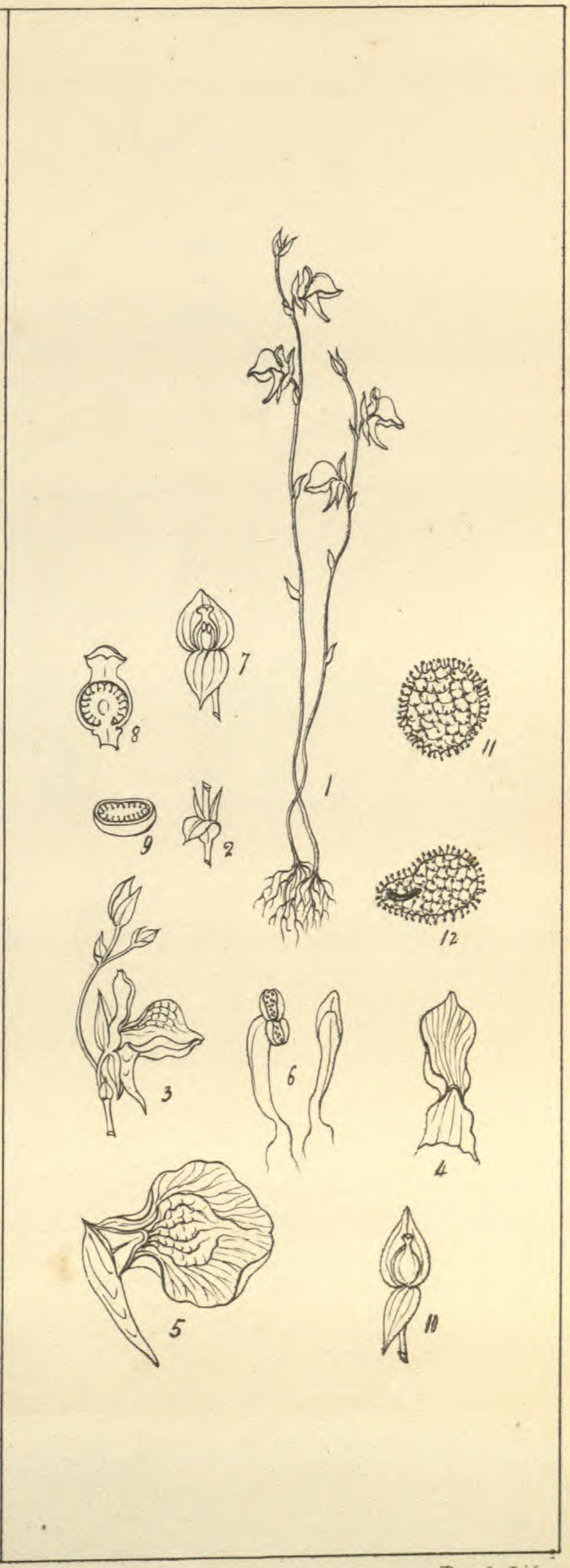
U. pedicellata (R. W.)



Govindoo del. Dumphy Lith.

Utricularia squamosa (R.W.)





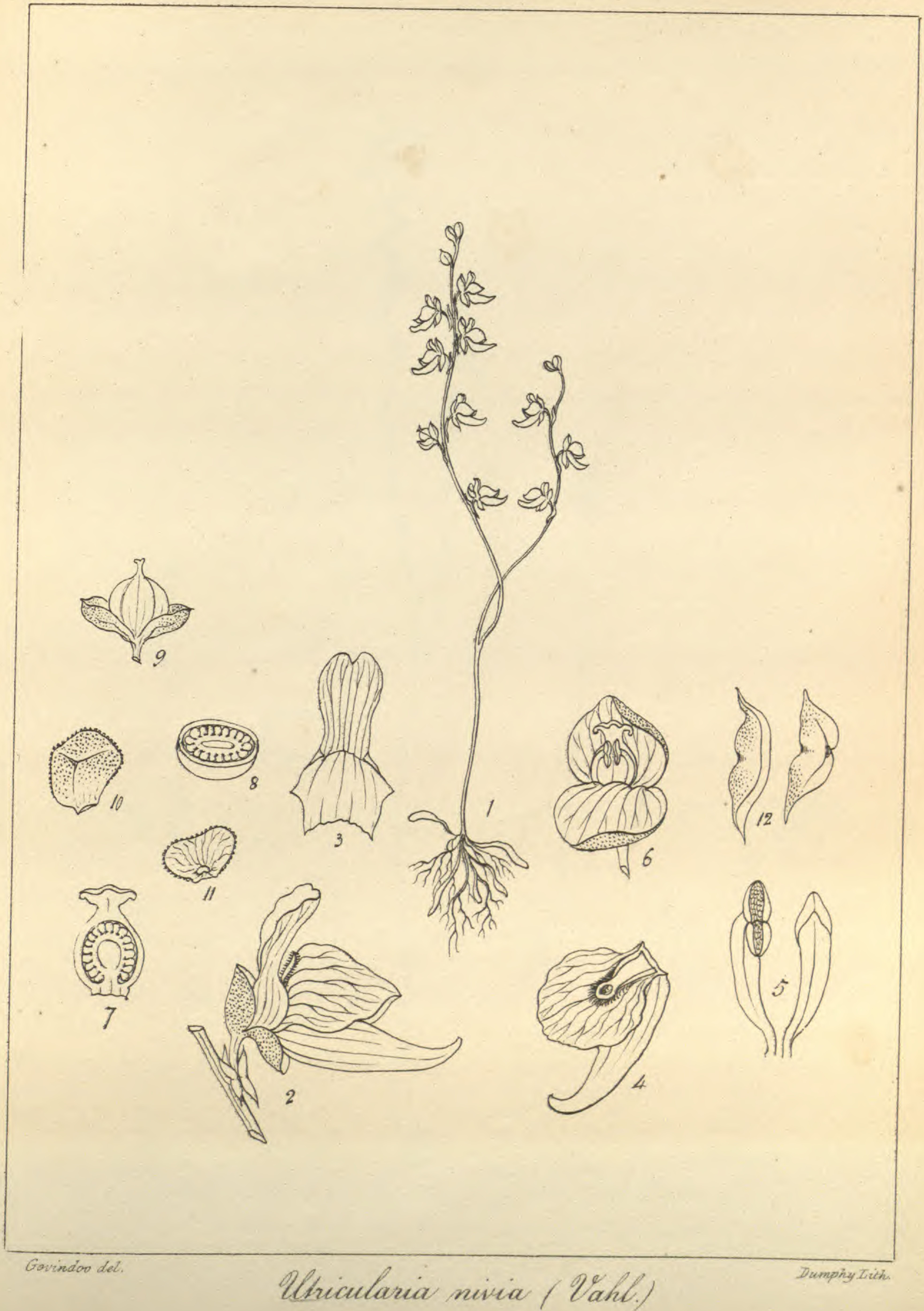
Govindoo del. Dumphy Lith.

U. affinis (R.W.)

U. macrolepis (R.W.)

Govindoo del. Dumphy Lith.

Utricularia glochediata (R. W.)

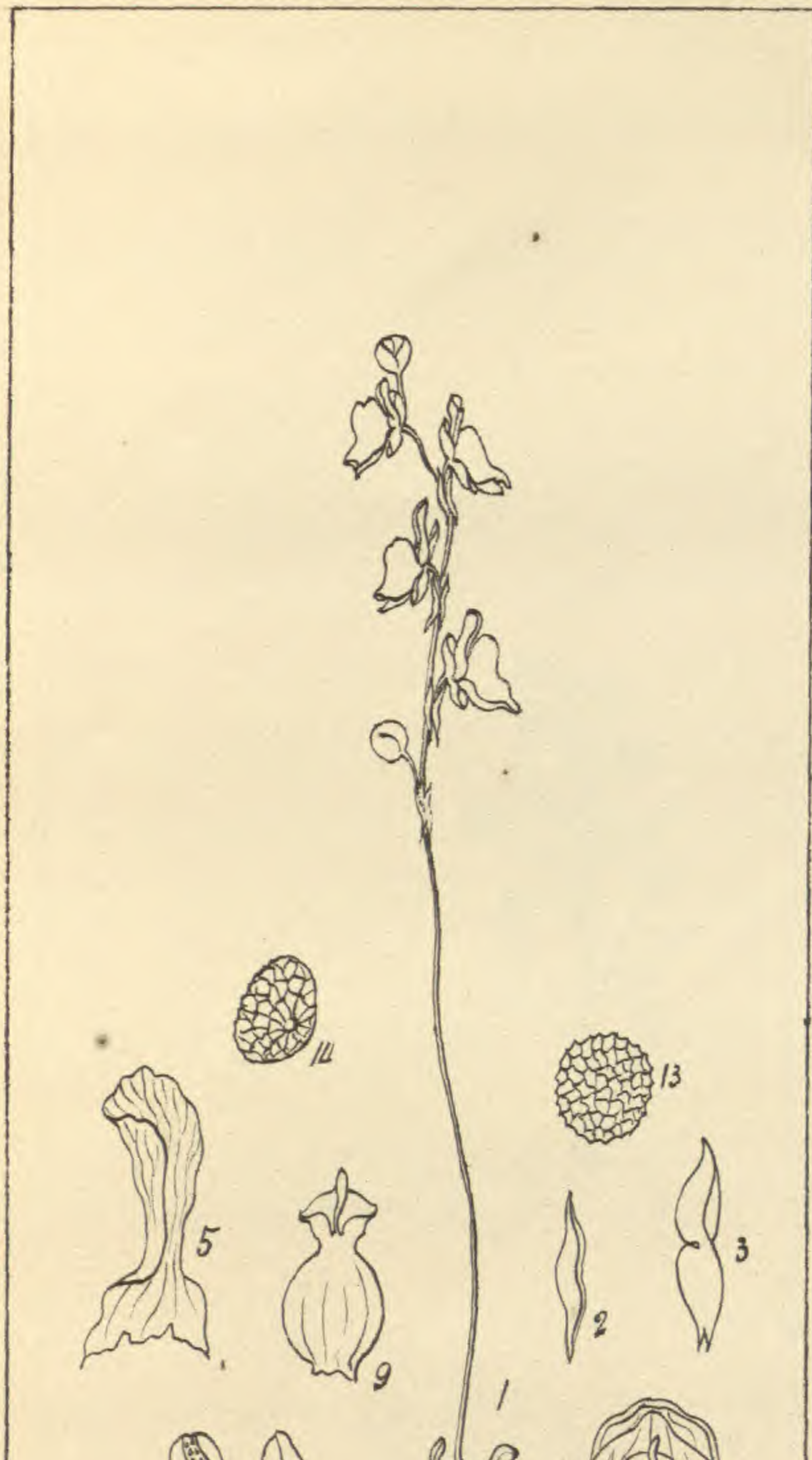


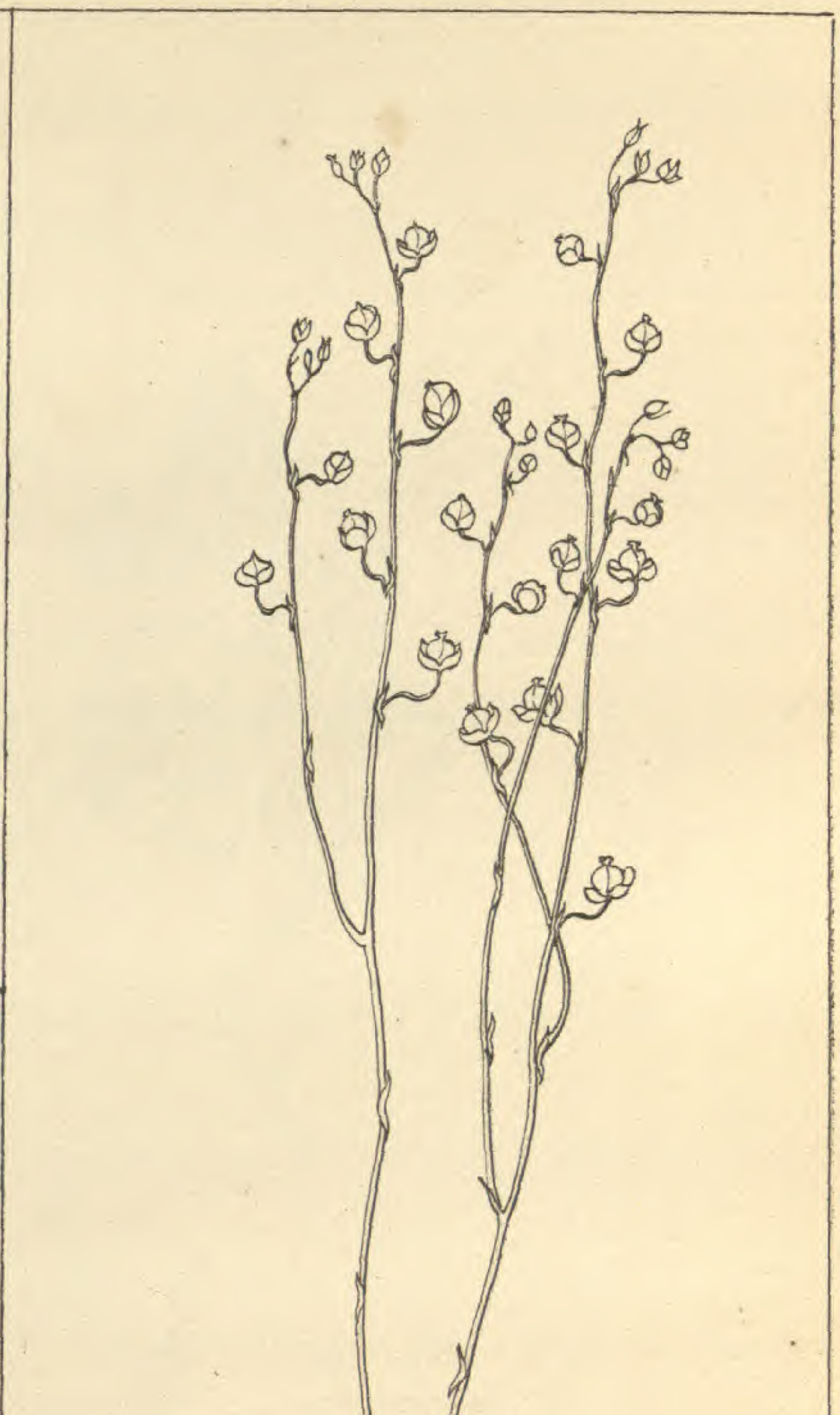
Govindoo del. Dunphy Lith.

Utricularia nivia (Vahl.)

Govindoo del. Dumphy Lith.

Utricularia cærulea (Linn)





Govindoo del. Dumphy Lith.

U. racemosa (Wall.) *U. bifida (Linn.)*

Govindoo, del. Dumphy, Lith.

Micropyxis tenella (R.W.)

Govindoo, del. Dunphy, Lith.

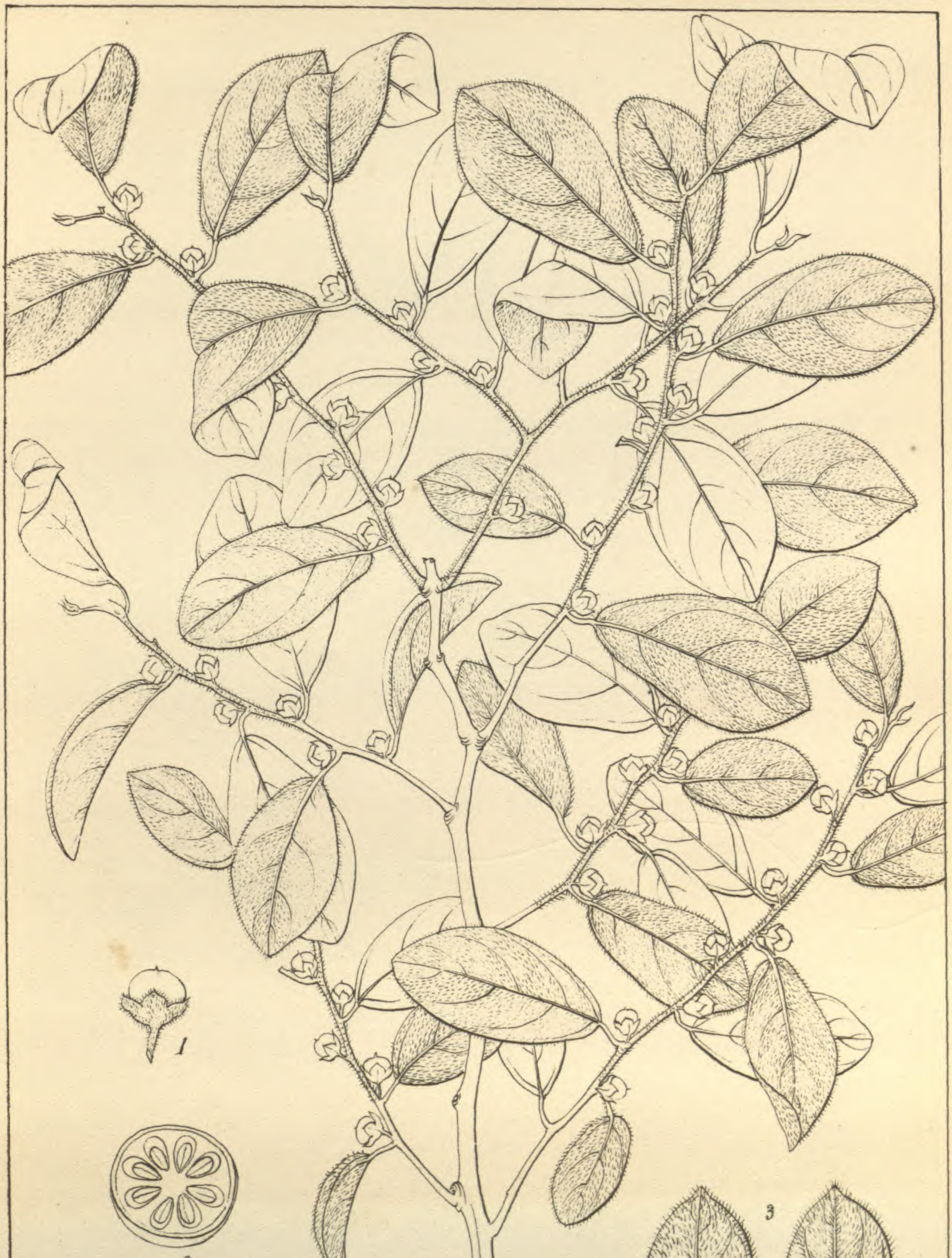
Mimusops Elengi (Linn)

Govindoo, del. Dumphy, lith.

Mimusops Indica (Alph. D.C.)

Govendoo, Del. Dunphy, Lith.

Mimusops Roxburghiana (R.W.)



Govindoo, del. Dumphy, Lith.

Diospyros capitulata ♀ (R.W.)

Govindoo, del. Dumphy, lith.

Isonandra polyandra (R.W.)

Govindoo, del. Dumphy, lith.

Sideroxylon attenuatum (Alph D.C.)

Govindoo, del. Dunphy, lith.

Samara Rheedii (R. W.)

Govindoo, del. Dunphy, Lith.

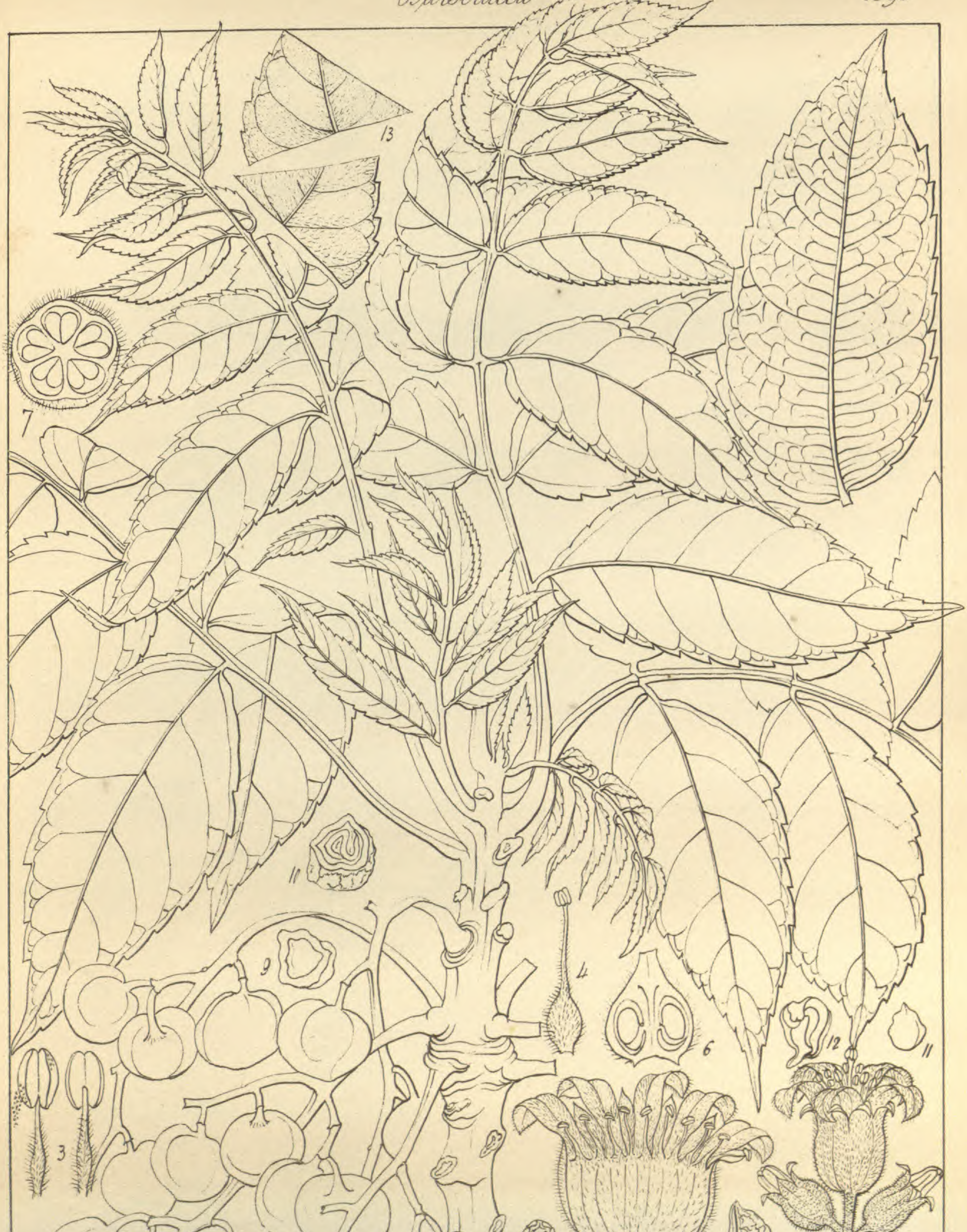
Serræa incana (Cav.)

Govindoo, del. Dumphy, Lith.

Turræa villosa (Bennet)

Govindoo, del. Dumphy, Lith.

Garuga pinnata (Roxb)



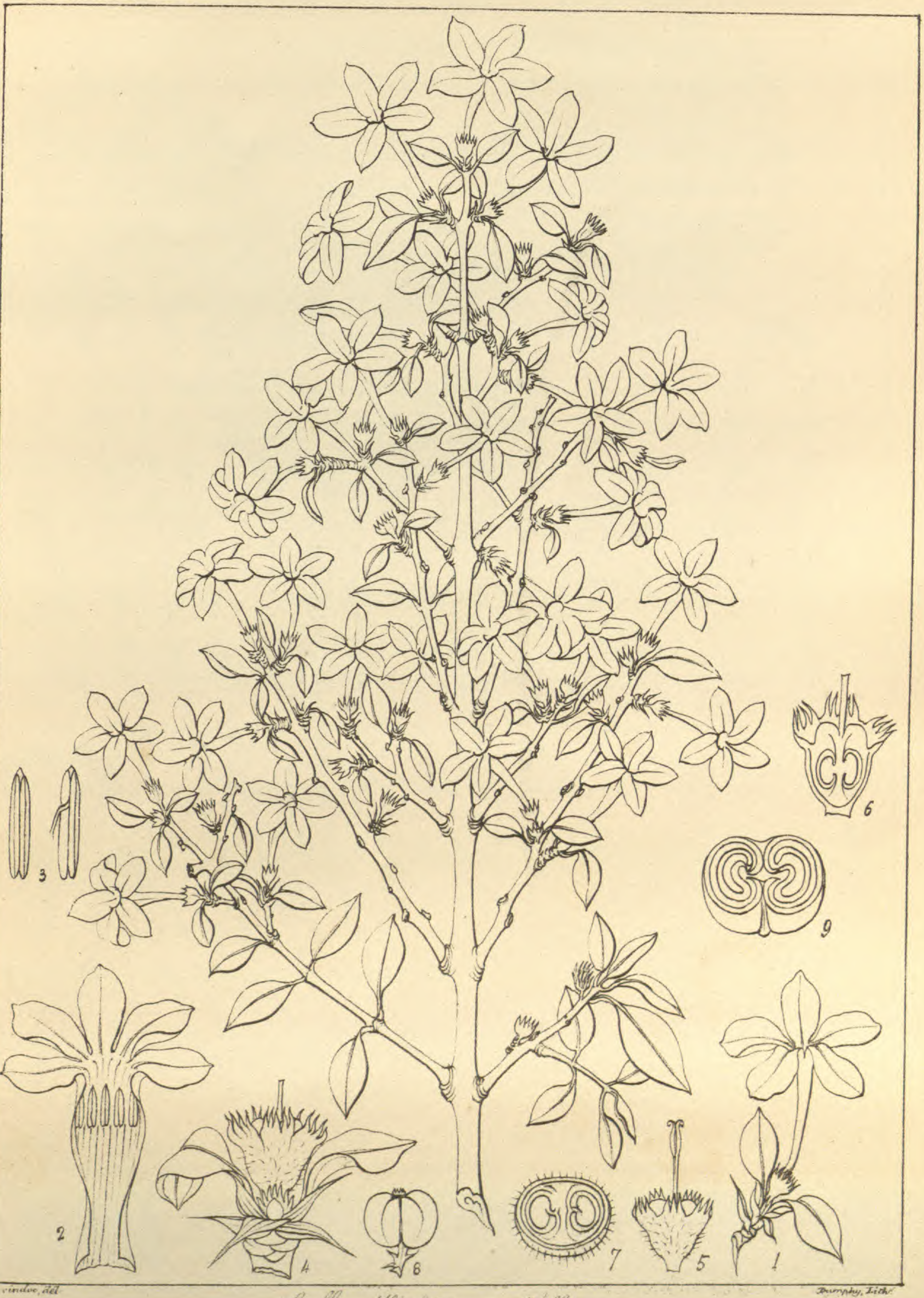
Govindoo, del. Dumphy, Lith.

Garuga pinnata (Roxb.)

Neurada procumbens (Linn)

Govindoo, del. Dumphy, Lith.

Cylista scariosa (Roxb.)



Govindoo, del. Dumphy, Lith.

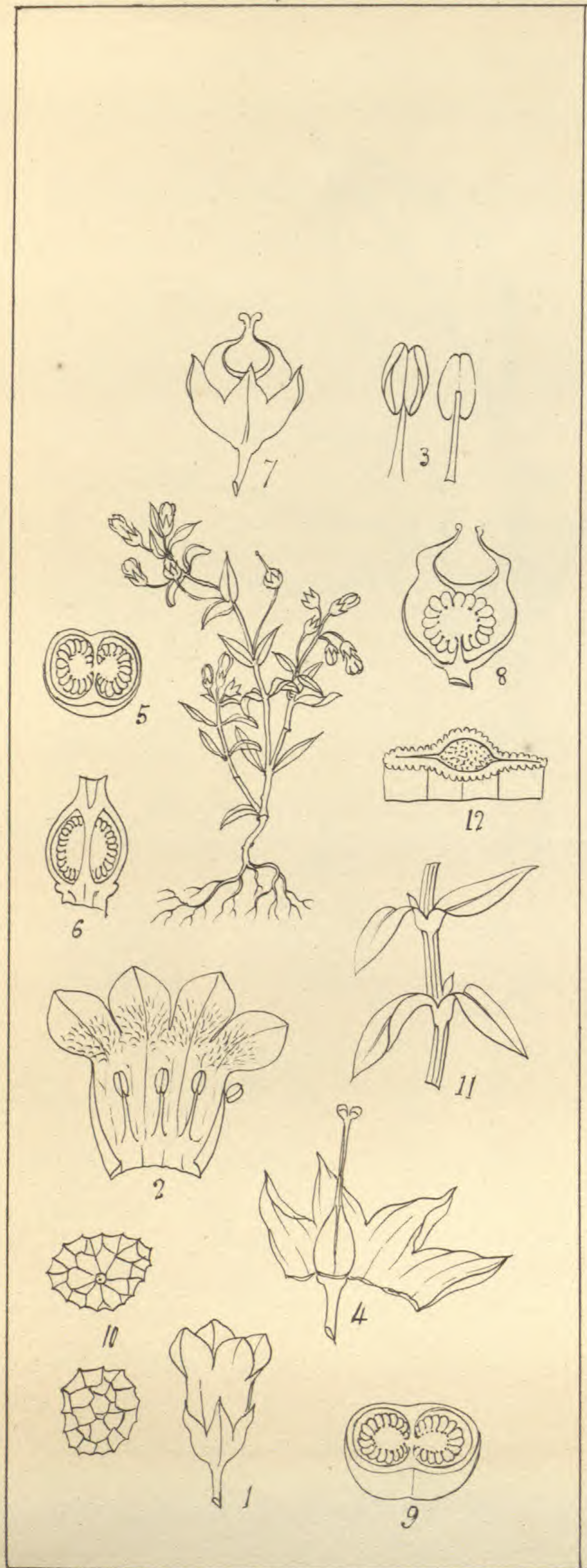
Coffea Wightiana (Wall.)

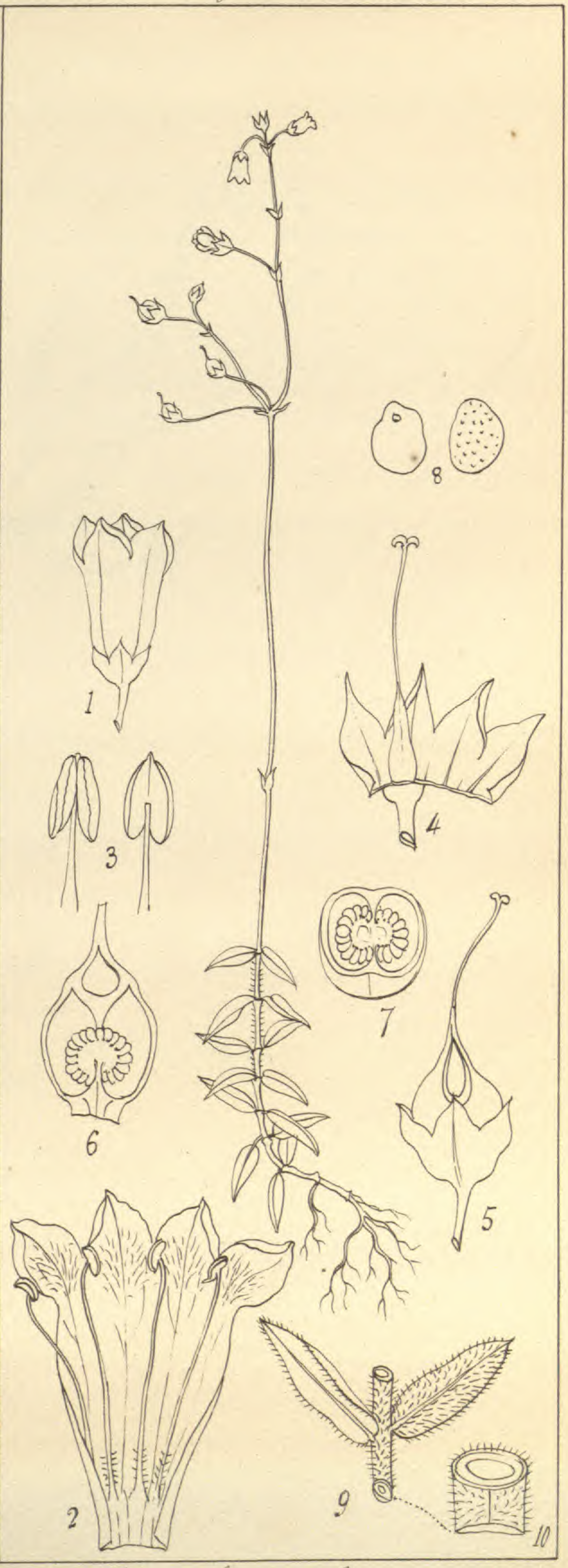
Govindoo, del. Dunphy, Lith.

Boucerosia diffusa (R.W.)

Govindoo, del. Dumphy, Lith.

Mitriola paniculata (Wall)

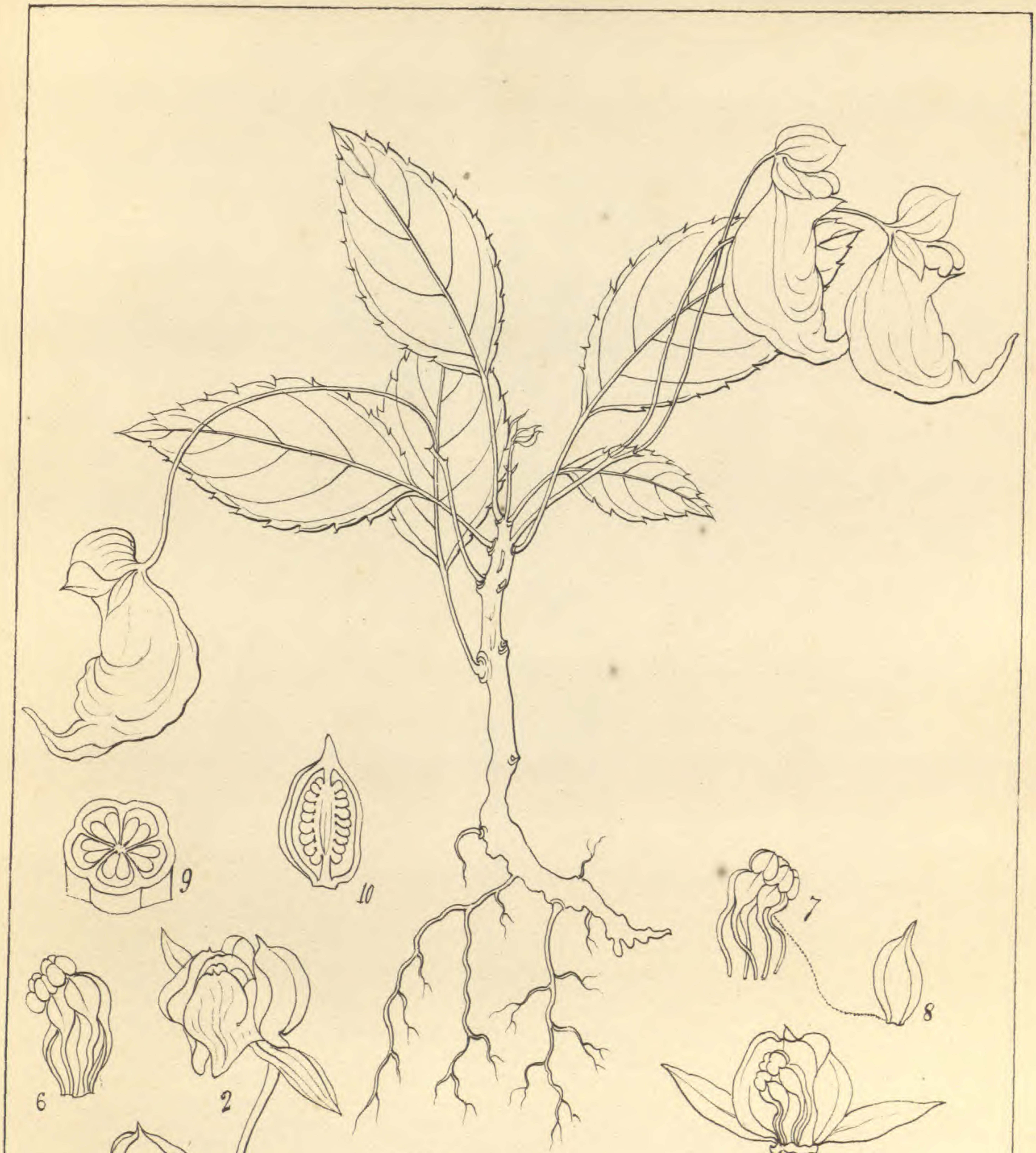




Govindoo del.

Metrasachme Indica (R.W.)

Metrasachme Malaccensis (R.W.)



Govindoo, del. Dunphy, lith.

Impatiens Jerdoniæ

Govindoo, del. Dunphy, Lith.

Impatiens Goughii (R.W.)

Govindoo, del. Dunphy, Lith.

Ailanthus Malabarica (D.C.)

Govindoo, del. Dumphy, lith.

Humboldtia laurifolia (Vahl)

Govindoo del. Dumphy Lith.

Humboldtia Brunonis (Wall.)

Govindoo del. Dunphy, Lith.

Humboldtia Vahliana (R. W.)

Govindoo, del. Dumphy Lith.

Bryonia Mysorensis (Klein.)

Govindoo del: Dumphy Lith:

Dichrocaphala Schmidii (R.W.)

Govindoo del: Dumphy Lith:

Atalantia floribunda (R. W.)

Govindoo del. Dunphy Lith.

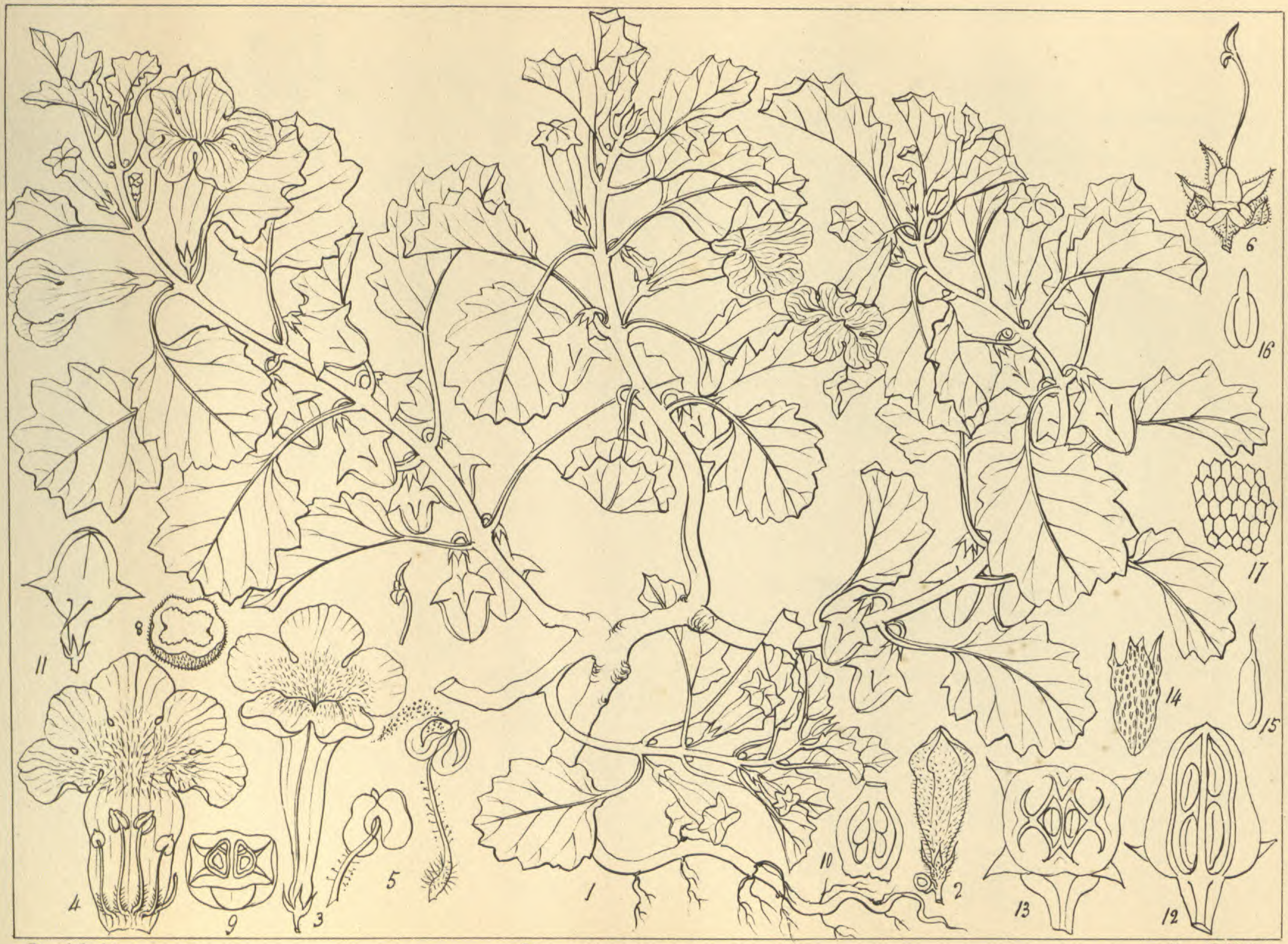
Osbeckia hispidissima (R. W.)

Walter Abraham del. Dumphy Lith.

Scævola uvifira (K.S.)

Govindoo del. Dumphy Lith.

Vincetoxicum Arnottianum (R.W.)



Rungiah del. *Dumphy Lith.*

Pedalium Murex (Linn.)

ஆனைநெரிஞ்சி. *Ananarinjee.* } *Tam:*

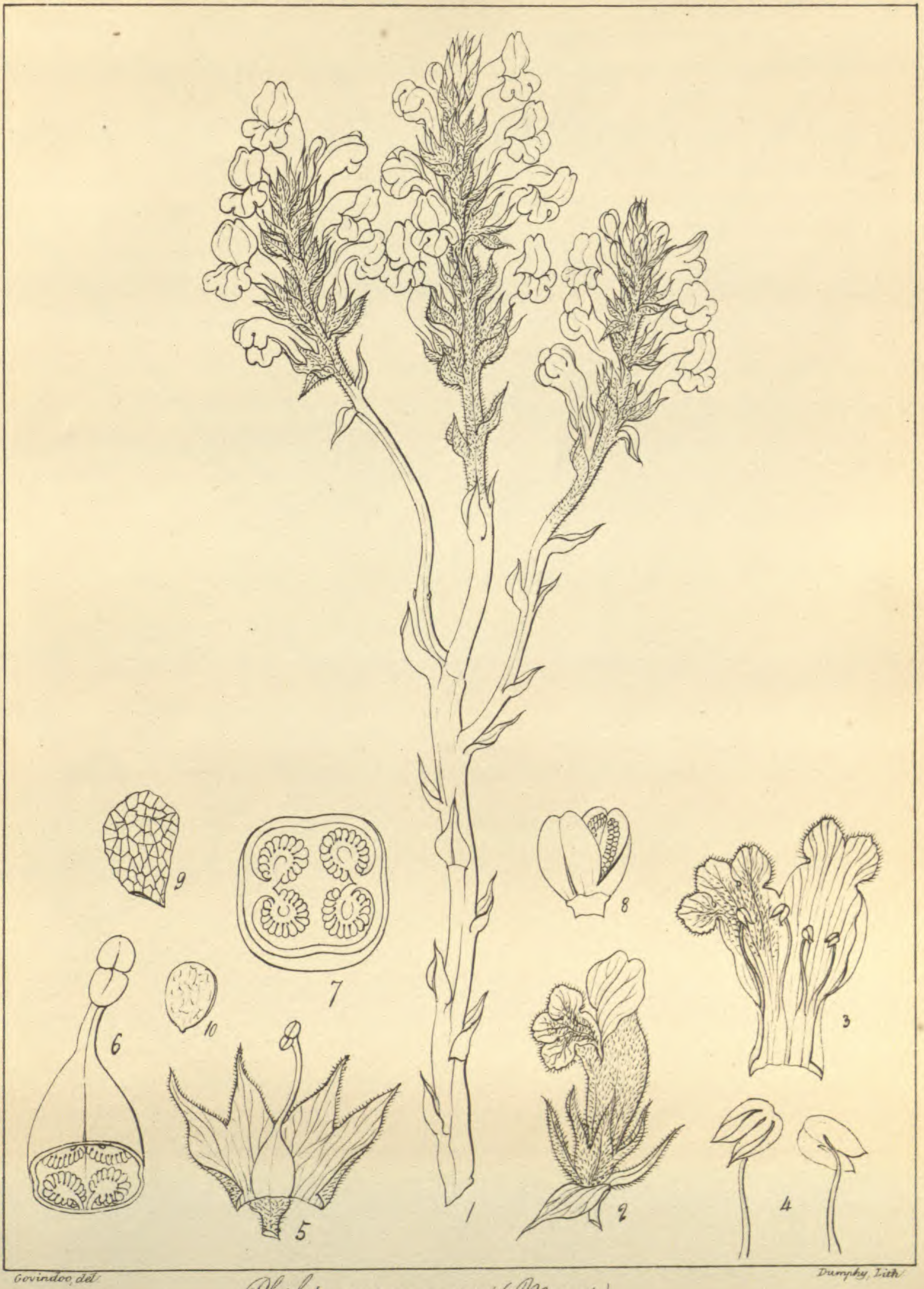
ఆనుగపల్లేరు *Anoogapullaroo.* } *Tel.*

Govindoo, del. Dunphy, Lith.

Puneeria coagulans (Stocks)

Govindoo, del. Dumphy, Lith.

Capsicum fastigiatum (Blume)



Govindoo, del. Dumphy, Lith.

Philepæa ramosa (Myus)

Govindoo, del. Dumphy, Lith.

Strobilanthes rugosus (R.W.)

Govindoo, del. Dunphy, Lith.

Lepidagathis nervosa (R.W.)

Govindoo del. Dumphy, Lith.

A *Salvadora Persica (Linn)*
B *Salvador Stocksii (R.W.)*